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ABSTRACT

These proceedings summarize the information exchanged at a teleconference involving more than 3,000 participants focusing on the following aspects of the relationship between schooling and employment: (1) what employers are looking for in employees, (2) employers' priorities in making hiring decisions, and (3) education and training on the job. Included in the volume are an introduction, a transcript of the teleconference, a series of audioconference questions and answers, a conference evaluation, suggestions for further reading, and a directory of conference facilitators and sites. Addressed in the questions-and-answers section are the following topics: collaboration, basic skills, cognitive skills, attitudes, job search skills, training, cooperative learning, special populations, guidance counseling and placement, and the role of vocational education in preparation for employment. (MN)

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EDUCATION AND EMPLOYMENT: WHERE WE ARE AND WHERE WE OUGHT TO GO

Annual Policy Forum Proceedings

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FOR RESEARCH IN VOCATIONAL EDUCATION
THE OHIO STATE UNIVERSITY
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EDUCATION AND EMPLOYMENT: WHERE WE ARE AND WHERE WE OUGHT TO GO

Annual Policy Forum Proceedings

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The Ohio State University
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FOREWORD

The Annual Policy Forum series, which was initiated in 1981, has been a significant factor in bringing together researchers, policymakers, and practitioners to examine contemporary issues to improve the employability and employment prospects of the youth and adults of our nation. The first forum examined the strengths of the various training systems in the United States in developing job skills for youth. The resulting publication, Job Training for Youth: The Contributions of the United States Employability System, has been widely acclaimed and distributed throughout our country and internationally. The publication from the second forum, Responsiveness of Training Institutions to Changing Labor Market Demands, has made a special contribution to the capacity of public and private institutions to meet the changing demands for skilled workers. The publication of the third forum, Displaced Workers: Implications for Education and Training Institutions, was instrumental in advancing knowledge on policy alternatives and disseminating information on operating programs for displaced workers.

The fourth forum, "Education and Employment: Where We Are and Where We Ought to Go," focused on the relationship between schooling and employment. Specifically, it examined research findings on (1) what employers are looking for in employees, (2) employers' priorities in making hiring decisions, and (3) education and training on the job. Throughout this forum, the focus was on the relationship of these three areas of employment to educational policies and practices.

The format for this forum represented a departure from past forums. By combining a videotape of the research with an audioconference, this forum reached more than 3,000 participants at 65 sites in 50 states; Washington, D.C.; and New Foundland, Canada. The videotape is continuing to be viewed at workshops, conferences, and meetings held within the state during this year. The diffusion of information through these media has been a cost-effective way to reach a very wide audience--many of whom would never have the opportunity to attend a conference at a central location.

The National Center wishes to thank the National Institute of Education for sponsoring the Annual Policy Forum series and Dr. Ronald B. Bucknam, Project Officer, for his encouragement and support. We also wish to thank for their contributions to the videotape and audioconference Dr. Howard Rosen, former Director of the Office of Research and Development of the Employment and Training Administration, U.S. Department of Labor; Dr. Harry Silberman, professor of Education, University of California at Los Angeles; Dr. Beatrice Reubens, Senior Research Associate, Conservation of Human Resources, Columbia University; Dr. Kathryn Borman, Professor of Education, University of Cincinnati; Dr. Juliet Miller, Division Associate Director, National Center; Dr. Linda Lotto, Assistant Director for Planning, National Center; Dr. Amitai Etzioni, Professor of Sociology, George Washington University; Dr. John Hunter, Professor of Industrial Psychology, Michigan State University; and Dr. Robert Slavin, Senior Research Specialist, Center for Social Organizations of Schools, Johns Hopkins University.

We are especially grateful to the students and representatives of the education and employment sectors for their assistance in producing the videotape: Roberta Adams, Chair of the Guidance Department, Grove City High School, Grove City, Ohio; Barbara Dandridge, Assistant Principal, and John Strebe, Mathematics Teacher, Mt. Hebron High School, Ellicott City, Maryland; Richard Jones, Principal, Howard Vocational-Technical Center, Ellicott City, Maryland; William Cocker, Lanier Corporation; Charlotte Sharpe, The Box Shop; Walter Smyth, Armco; Caryl Williams, Cheryl's Cookies; John Markt and Roy Worthington, AccuRay; Ray Mason, Nationwide Insurance; Clifford Roe, Westinghouse; David Holscott, National Screw Machine Products Association; and William Dennis, National Federation of Independent Businesses.

We are especially indebted to the 65 coordinators for their outstanding efforts in organizing conference sessions at their local sites. The conference evaluation forms indicated that they were extremely effective. They contributed significantly to the success of the forum and we thank them for their efforts.

Appreciation is expressed to Dr. Richard Miguel, Senior Research Specialist, Research Division, for directing the forum and preparing the conference proceedings; Dr. John Bishop, Associate Director, Research Division, for coordinating and interpreting the research for the videotape; Tina Lankard, for the videotape script; Larae Watkins and Gwen Rippey, The National Center staff, for the audioconference arrangements, site coordination and materials preparation; Jane Croy for secretarial support services; and Judy Balogh for editorial services.

Robert E. Taylor
Executive Director

INTRODUCTION

The purpose of the fourth annual policy forum was to examine broadly the relationships between education and employment in order to improve youth employability. The material for the forum was based on the National Center's research on employer demand and schooling effectiveness concerning youth employment. This research, which was sponsored by the National Institute of Education between December 1980 and November 1984, was conducted by a multidisciplinary team of economists, sociologists, psychologists, and educational researchers.

The forum was conducted at 65 sites in 50 states; Washington, D.C.; and New Foundland, Canada. More than 3,000 persons registered for the forum. These participants viewed a videotape of the research findings and recommendations and participated in a discussion conducted by a local site facilitator. After the site discussions, the conferees engaged in a nationwide audioconference moderated by Richard Miguel, director of the forum. Nine separate sessions were held on March 26, 27, and 28 and May 29 and 30, 1985 in order to accommodate all the sites. Following is a description of the videotape, site follow-up discussion, and audioconference components of the forum.

Videotape

A 56-minute videotape entitled "Education and Employment: Where We Are and Where We Ought to Go" was produced by the National Center as a vehicle for conveying the major content of the forum. Dr. Robert Taylor, executive director, introduces the topic of the forum, youth unemployment, and need to build stronger relationships between educators and employers to address this problem.

The special concern about what schools can do to strengthen our nation's work force and to build a stronger economy has been the subject of a number of blue-ribbon panels on excellence in education. Featured on this videotape is the National Commission on Secondary Vocational Education and their report, The Unfinished Agenda: The Role of Vocational Education in the High School.

Although the subject matter of this forum is of special concern to vocational educators and trainers, the videotape is useful for all educators, as the problems of youth employment affect all youth and the solution is a shared responsibility among all educators. This point is illustrated as John Bishop and other researchers present their findings related to (1) what qualities employers look for in job applicants, (2) how they select employees, and (3) how they train new employees. Using a documentary format, the videotape complements the researchers' findings with interview segments from youth and employers. The videotape also includes recommendations for schools, students, and employers whose intent is to enhance youth employability by improving teaching and learning strategies, helping students obtain good jobs after graduation, and improving training at the workplace. The complete transcript of the videotape is included in this publication.

Site Follow-up Discussions

After the forum participants viewed the videotape at their respective conference sites, they participated in a discussion to relate the substance of the videotape to local and state concerns and to generate questions for the audioconference session. Although the arrangements at sites varied, many facilitators arranged for a panel to lead the discussion and to present data on their own particular situation. They effectively integrated this information with that from the videotape and the audioconference feedback. Many culminated the site conference with a discussion of how these insights could be implemented at the state and local levels.

Audioconference

Each of the 65 sites was linked to a panel of experts at the National Center and other locations around the country in 1 of 9 audioconference sessions. Each session, lasting approximately 60 minutes, afforded participants the opportunity to ask or receive clarifications or additional information on the issues raised by the videotape presentation. It also provided the participants the opportunity to share ideas and concerns with their counterparts across the country. The audioconferencing technique was an easy-to-use and cost-effective means for reaching a large audience. The moderator provided the ground rules to ensure equitable participation among the sites. Spontaneous interactions among sites was made possible by using a voice-activated system (i.e., an individual could gain "the floor" simply by "speaking up" anytime there was a pause in the conversation). This worked remarkably well, contributed to a forum atmosphere, and posed no disruption to the floor of the audioconference. More than 150 questions were raised during the 9 sessions. One hundred questions and answers from the audioconference were categorized by content and are included in this publication.

Organization of the Publication

The remaining sections of this publication present a summary of the conference evaluation with recommendations for improving the conference techniques, the audioconference questions and answers, a transcript of the videotape, references for further reading on education and employment, and a directory of conference sites and facilitators.

VIDEOTAPE TRANSCRIPT

Education and Employment:
Where We Are and Where We Ought To Go

(Edited for this monograph)

Introduction

Dr. Robert E. Taylor
Executive Director
The National Center for Research in Vocational Education

The topic of this Forum is youth unemployment and its relationship to education and to employers. As a nation, we take pride in a public school system that is committed to excellence and that provides options that are accessible to all students, those that plan to attend college and those that do not. We need to remember that about 25 percent of our nation's high school students drop out of school before they graduate. And, of those who do graduate, about 30 percent make high school the end of their formal education and the starting point for work.

Now, those young people entering the work force are faced with a very discouraging employment situation. For example, recent data from the Bureau of Labor Statistics indicate that the unemployment rate was 25 percent for young people who graduated from high school the previous June and who were not enrolled in college. Among black high school graduates, the unemployment rate was even worse at 54 percent.

This high rate of youth unemployment is explained somewhat by the evidence showing that high school youth lack the basic skills and competencies required on the job. But, beyond the lack of cognitive competencies youth are also showing a lack of positive attitudes and behaviors that will enable them to succeed once they are hired--and of equal importance--they are maintaining these deficiencies for several years after high school. Or, to put it differently, they are not correcting these deficiencies in the early employment years.

Our nation's emphasis in education reflects its concern for our economic productivity and, in fact, the excellence movement in part draws its justification for our need for productivity and our ability to compete in the world markets. Literally, there is a relationship between quality and relevance of education and our economic productivity.

For example, those recent high school graduates who are inadequately prepared for work and who have inadequate knowledge of the job market most often perform poorly on the job and are less productive. They are also more likely to be dissatisfied with jobs and job conditions and end up getting fired or quitting.

Employers, because they do an inadequate job of screening and assessing applicants, frequently hire youth who do not meet their job requirements. These employers contribute to the high job turnover by reacting to these poor experiences with young employees, offering them employment in jobs that are relatively less desirable--jobs that offer very little on-the-job training, involve fewer promotion opportunities, and pay only the minimum wage.

This practice of employers perpetuates the job turnover problem by contributing to the lack of motivation prevalent among too many youth. High school

students who plan to seek full-time work after graduation too often see no incentive to work hard in school because employers do not offer them a reward for their better preparation. Thus, we are confronted with the central question: How can the partnership between educators and employers be improved to address the problems associated with unemployment?

This forum, which is part of a project funded by the National Institue of Education, will address this question as it examines the relationship between education and employment and educators and employers. In carrying out this project, the Research Division of the National Center has drawn on the knowledge and practices of employers and educators to review the current state of the art and to suggest ways in which educators and employers can work together to improve the capabilities and productivity of our nation's youth.

Dr. Linda Lotto
Assistant Director
The National Center for Research in Vocational Education

Many commissions have studied the problem of how to make education and training more effective in preparing people for work. One of these commissions is the National Commission on Secondary Vocational Education.

The charge to the commission was to examine the role and function of secondary vocational education. The commissioners were a diverse group of 14 individuals, representing business, education, and labor. As part of the Commission's activities they held hearings at 10 sites across the country and visited schools at each site. 163 people testified at the hearings representing 31 states.

Dr. Reubens, what were some of the recommendations of the Commission for schools?

Dr. Beatrice Reubens
Conservation of Human Resources
Columbia University

We made quite a number of recommendations, but the driving force behind every recommendation was concern for the student. We have six main recommendations in six areas: to improve access to vocational education; equity of educational opportunity; the curriculum offered in vocational education; strengthening teacher recruitment and preparation; broadening standards and accountability of judging the effectiveness of vocational instruction; and to improve articulation between the various levels of schooling and also between vocational education and other forms of vocational training for youth.

Linda Lotto

Did you make any recommendations about the role of employers?

Beatrice Reubens

We did. We recommended the involvement of employers in improving classroom instruction, teacher development, curriculum updating, and evaluating career education and student employability as well as working directly in the school.

Narrator

Students' views on the relevance of their schooling were documented in a recent interview session at Grove City High School in Columbus, Ohio. We asked these students to tell us how they think their school activities are viewed by employers and by the school itself.

Jeff
High School Student

I think grade average would tell a lot because it's saying how responsible you are, what priority you have. And, during an interview, it's very important how well you communicate with the person.

Susan
High School Student

If you're involved in certain clubs, like National Honor Society or Key Club which is a service organization, I think that really told them a lot.

Stevie
High School Student

Personality and the way you handle yourself. Because if you work with the public a lot, they're going to look for the way you talk to people and the way you act around people.

Brian
High School Student

They're not sure who they're calling from Sears. And so, if you don't act in a professional manner, they won't talk to you. You've got to be mature about it and you've got to know what you're doing.

Jeff

If you are on the National Honor Society, you do get recognized when they induct you into it. And the whole school's present in the gym. But it's not as much as sports.

Tory
High School Student

Most of the honor students don't get as much recognition as the athletes, but it seems like most of the honor students go further in life. Audie here is a prime example. She's a scholar and a student athlete.

Audie
High School Student

The major emphasis is on athletes and that definitely is a problem because you see many college athletes flunking and not being eligible.

Susan
High School Student

You really have to get the incentive from yourself. You have to want good grades; you have to work for them; you have to know that because of this you are going to be successful in life.

Tina Lankard
Research Division
The National Center for Research in Vocational Education

Roberta, what is your view of the school's role in preparing students for work?

Roberta Adams
Guidance
Department Chair
Grove City High School

Depends on the type of program students want . . . college or a job right after school. If they will be seeking work after high school, they need immediate skills such as work attitudes and job skills. I don't list a general program. I don't believe in it. Students need to know that when they get out of school they are going to be able to do something.

Now, just one thing . . . and this is what we found out: if students are not in class, they won't learn. If they don't attend class . . . they won't attend work and will get fired. When we look into it, we find that it is the same pattern as the parents have followed. Students won't learn unless those attitudes are reinforced at home too.

What Employers Want and How They Select

Narrator

The Commission's report and our interviews stress the need for educational policies and practices that will improve youth preparedness for work. To determine how education can foster a satisfying union between employer and imployee, we asked a number of employers to tell us what abilities and character traits they want a new employee to have.

Bill Coaker
Lanier Corporation

The number one thing that we look at is success patterns in a persons background. Number two, we look at a high activity level in what they've done in the past. And third, though it's hard to determine, a strong desire to succeed.

Charlotte Sharpe
The Box Shop

Probably the most important thing I look for in a person that I hire is that she appeal to me personally, that I like her personality, and that she projects the image that I want the shop to have.

Walter Smyth
Armco

Loyalty, integrity, intelligence, and commitment to the type of job ARMCO might offer.

Caryl Williams
Cheryl's Cookies

The traits we're looking for, being in the food industry, is someone who has possibly had some food experiences (although that's not a pre-requisite); someone who is enthusiastic, bright, personable, who can basically converse pretty well with a customer; and someone who does seem to be fairly eager.

John Markt
AccuRay Corporation

Essentially we're looking for some required skills. We produce technical products here. We might look for a certain mechanical ability or technical ability on their part to do the type of work we need to have done.

David F. Holscott
National Screw Machine
Products Association

First, we look at cognitive or mental characteristics: the ability to read blueprints, calculate math; the ability to use machines and tools to make parts. Second, we look at personality traits. "Will this person fit into my operation?"

Narrator

These employers are typical of the hundreds of employers we surveyed. In their views, a productive worker must have three qualities: basic communication and reasoning skills, occupationally-related skills, and good attitudes.

To review the scientific evidence on worker productivity, we have with us Dr. John Hunter, one of the nation's experts on the correlates of worker productivity.

John Bishop
Associate Director for Research
The National Center for Research in Vocational Education

John, some employers select new employees on the basis of aptitude tests that measure basic communication and reasoning ability. What does the research say about the ability of these tests to predict job performance?

John Hunter
Industrial Psychologist
Michigan State University

We have accumulated results of literally hundreds of studies and looked at the relationship between cognitive ability and job performance. And, what we found is that cognitive ability is the best predictor of all known methods of selecting people for jobs. In particular, if you compare how well you predict using cognitive ability tests with how well you predict using interviews (which is most common method used to select people) cognitive ability tests are actually 3 times higher in validity for all except the very simplest jobs such as putting things into and taking things out of a machine in a factory. In particular, if you are familiar with the SAT test, if a person was a hundred points higher on both the math and verbal on the SAT test than another person you would expect that person to be on the average 20% higher in productivity on the job.

John Bishop

Why then don't employers use these aptitude tests more in making hiring selections?

John Hunter

Up until 10 or 15 years ago, they did make heavy use of ability tests. What happened is the tests were attacked by various legal groups as being unfair to minority members. It then took a considerable amount of time for the research on that issue to come in and show the charge was untrue.

John Bishop

Dr. Hunter's research has shown us that employers get a much more productive worker when they hire someone with good communication and reasoning skills. Since the wage depends upon the job occupied and typically not the productivity of the person on the job, the youth does not receive very large benefits from their academic achievement. We found, for instance, that a 100 point improvement in both math and verbal SAT scores, and that's not easy to do, raised earnings 10 years after high school for those who did not go to college by only 5 to 7 percent. How can we expect high school students to take any of the 20 hours they typically spend watching television each week and devote it instead to doing homework, currently averaging 4 hours a week, when the economic rewards are so small.

In my conversation with Dr. Hunter, I also asked him about occupationally related skills and what his research tells us about their importance.

John Hunter

There is an extremely high correlation between job knowledge and job performance. In effect, people who don't know very much about the job do a very poor job of performance. There's a very high correlation, similarly high, between cognitive ability and job knowledge. What this means is that a large portion of the reason why cognitive ability predicts performance is because high cognitive ability tends to determine high job knowledge which, in turn, tends to determine high job performance. There is also a secondary relationship between ability and performance on the job which I would attribute to the fact that people with high cognitive ability are better able to innovate if they come across some kind of problem or deviation on the job where they have to go beyond the rules.

John Bishop

Our research supports the importance of job-related skills. Non-college bound high school graduates who took 4 vocational courses in their last 3 years of high school rather than none were 23 percent more likely to be employed in the year and a half following graduation. Their jobs had an 8 percent higher wage rate and they earned 47 percent more during the calendar year after graduation. Employers benefited as well. New hirees who had been trained at a 2 year college or technical institute were 13 percent more productive when they started and required less training time. Relevant work experience has similar effects. Five years of relevant work

experience raised productivity by 25 percent in the first 2 weeks and reduced training costs by one third. Even after a year on the job, the person with five years experience was still 9 percent more productive. People with relevant experience and training did receive somewhat higher wage rates but, the wage did not rise commensurately with the rise in productivity and the increased savings in training costs. Here again the employers profited from hiring someone with vocational skills just as they profited when they hired workers with good basic skills.

Narrator

Employers also stressed the importance of various personality traits. We asked Dr. Amatai Etzioni to describe some of the ways in which personality traits influence a worker's job performance.

Amitai Etzioni
Sociologist
George Washington University

The personality is the basic foundation on which everything is grafted. The point is, if you don't have the capacity to mobilize yourself, to apply yourself to the task (what we call self-discipline) nothing else will work. In effect, you need it twice; one because that personality trait is most important for you to be a good employee--to be punctual, to stick to the task, to be able to concentrate--and it is necessary to acquire the skills, the specific skills, to learn to read a blue print, to learn to type. If you don't have the psychological foundation, you're not going to make either a good employee or a good student.

Our study showed that the single most (important factor) turned out to be homework, not because it gives you a few more hours of learning but because the school can encourage the young person to do work where they're not supervised, then indeed they have what they require to be good employees and good citizens by the way.

So you need assignments that are meaningful to the student not the teachers; and second you need appropriate, timely fair feed back. We have, especially in some of our public schools, teachers who give assignments and they keep them weeks on end. When they return them, there's one short little grade without any feedback or explanation other than the grade. And, so often, they give A's or good grades on a basis other than achievement--for social justice or other purposes--which are important to honor; but, in the end, undermine the student's sense that good work done is properly evaluated.

Narrator

Research has revealed the competencies employers say they want and has shown the relationship between those competencies and on-the-job performance. However, determining which applicants have those abilities

and character traits is difficult, particularly since employers make their decisions very rapidly. The typical employer devotes fewer than ten hours of staff time to recruiting, interviewing, and selecting for a vacancy.

Gwendolyn Rippey

Mr. Mason, of what importance are school records--grades, participation in school activities?

Ray Mason
Nationwide Insurance Company

Well, I think they are extremely important for this reason. Say we're going to talk to a person right out of school. About all we have to go by on that person is their school record, so naturally we want to get their grade point average.

Gwendolyn Rippey

Are high schools and colleges responsive to your requests for transcripts?

Ray Mason

Let's take each one separately. On high schools, we just recently took a survey of what kinds of responses we have been getting and it was most discouraging. We got only 93 out of 1,000 we had asked for.

Gwendolyn Rippey

Is there a reason why that is the case?

Ray Mason

I think the reason is that they are too busy. At least, that's what they tell us when we call them and ask why they didn't send them.

Narrator

Schools, however, are not too busy to send transcripts to colleges--only to employers, even though the Buckley amendment permits and even requires that schools send transcripts to employers if students request it. We found that schools are not the only institutions reluctant to share information.

Ray Mason

We warn our managers all the time. If someone calls you on the phone and asks you about someone who has left the company, you refer them to personnel. You don't say word one to them. You could be put in the position where you are going to be in court someday.

Narrator

One of the consequences of the poor flow of information about performance from schools and previous employers is that the interview is given a great deal of weight. In a recent study, the National Center examined ways in which employers assess applicants during the interview.

Kevin Hollenbeck
Senior Research Specialist
The National Center for Research in Vocational Education

We showed clerical, retail, and machine trade employers videotapes of simulated interviews and asked them whether they would hire the job applicant if they had a suitable opening.

In the first set of these interviews the individual had the same work and educational background. All we did was to vary the actor's appearance or attitude, or nonverbal behavior. This first chart shows the effect of a bad attitude in the interview. This behavior lowered the probability of being hired from 90 to 2 percent across the sample of employers.

Shyness, lack of eye contact, and poor posture had a negative effect on retail and clerical employers, but 75% of machine-trade employers were unaffected.

Slang, poor diction, and poor grammar lowered the probability of being hired to only 15 percent of clerical employers and 8 percent of retail employers. Again, machine trade employers were less affected.

As researchers, we ask why do these signals and highly subjective interview evaluations get used? Are they really correlated with on the job performance? Might there not be better ways to match young people--their skills and education--to jobs with particular skill requirements?

Narrator

The inefficiencies of the selection process lead to a poor match between jobs and workers which results in high job turnover. This means that firms are always training new workers and this is costly, particularly for employers in high-skilled occupations. Therefore, employers seek out applicants who already have required skills and the capacity to learn new things quickly.

Roy Worthington
AccuRay

Our jobs are graded, in other words, a welder in our machine shop would be at a particular job grade which translates to a particular salary level. If we had someone with 10 years experience or someone right out of a trade or vocational school we would make an offer at the same salary. Why shouldn't we hire someone with prior experience which is going to be able to translate into our needs, who from day one is going to be productive for us, rather than someone who may have the basic skills but is going to take a lot more training.

David Holscott

Job skills are the name of the game. They are the reason why an employer hires an employee. Most employers train, but the worker has to have a certain skill level so that the employer can move him from that skill level to real precision skilled craftsman. And the employer has to do it quickly because he [or she] has to get the person productive to help pay for his [or her] salary.

Walter Smyth
Armco, Inc.

Adaptability or the ability to learn new things is very important business because of the changing nature of what we do and how we do it.

Clifford Roe
Westinghouse Corp.
(retired)

I think the thing we were trying to assess mostly was the applicant's learning ability.

Employer Provided Training

Narrator

Ninety percent of training is informal and is provided by a coworker or an immediate supervisor. Consequently, employers also seek employees who will be able to train others.

Walter Smyth

A lot of the training going on in our company is on-the-job training as opposed to formal training. A new employee is coached by a more senior employee to do the job.

David Holscott

We do provide training. It usually is on the job, it's called elbow-to-elbow training.

Caryl Williams

It's all right on the job. You are going to learn by doing, by experience.

Narrator

Dr. Kathryn Borman, who conducted a field study of newly hired youth for the National Center, shares her findings on training at the worksite.

Dr. Kathryn Borman
University of Cincinnati

What we found was that training typically was sporadic. It occurred in the context of a problem or task that the new employee was having difficulty with. It generally involved that new employee seeking information to help solve the problem on the spot--generally, seeking information from a coworker as opposed to a supervisor. So, it was then in a sense ad hoc, and might not even be characterized by the new employee as training, per se. Nonetheless, it assisted him [or her] in moving through his [or her] task and acquiring skills along the way. Now the most successful, perhaps [regarding] training in the long term, was work which was a mentoring experience for the young person.

Two outstanding examples of this kind of mentoring process were in an appliance repair store and in a factory. Two contrasting work settings I might point out, because the first involved really highly skilled technical work, like work in connection with repairing air conditioners, refrigerators, and the like. In this setting a young man was taken under the wings of a well-established worker who saw it as his job, to oversee his work. In other words, as the young man worked during the course of the day, his work would be evaluated. He would be given feedback, when in fact he wasn't seeking it often times. But that feedback, often in the form of encouragement, would in essence create the supportive climate that built between the two of them. Not only was he learning skills in the context of these tasks, but he was developing a sense of team spirit and cooperation with his mentor.

In the factory setting there were really multiple mentors because in this work setting, the young man was working along side a number of employees who were hired from his same small town. As he worked on the line as a materials handler, he would often receive encouragement--generally in the form of good humor.

John Bishop

Your observation is that training is very specific and really narrow to the needs of the job at hand. It is typical in America that young people are taught specifically for the tasks that they have. There's no program of giving them broader training in a variety of tasks until they might get transferred in the job to taking that on. That narrowness in the training in the United States, and also the minimal amount of it, is one of the problems we have--a consequence of the high turnover rate which means the employer is unwilling to spend a lot on training because many of the workers will not stay. As a consequence the workers will not effectively invest in the training because, often if they leave, other employers will not reward them for the training because it's not visible to them. They (the employers) don't know how good a training experience they (the students) have had in their past jobs.

Kathryn Borman

This is unlike the situation in many European countries, isn't that true?

John Bishop

Right, in Germany youth enter the labor force, or most youth enter the labor force at age 16, into an apprenticeship and they stay with that employer for 3 years. Ninety percent of them get through to the end of their apprenticeship and pass the apprenticeship exam. The training is specified by a board of employers and master union members so that if the firm does not have a particular type of welding going on at its shop, it sends the youth over to another shop to get the training there. Their examination at the end is given by other masters. The training that the youth gets in the initial job is very general and it is done, here again, in a mentoring type of environment.

Narrator

Investments in training in Germany and Japan are considerable. For example, apprentices in Germany earn only 10 to 20 percent of the occupation's average wage during their training period. And the employers spend as much as $20,000 on the training of each apprentice. Because of this, employers exercise great care in making their selections, using school records as a basis for choosing who will get these training slots.

Uwe Lauterbach
Institute for International Educational Research
West Germany

We have about 650,000 places and there is a big competition about these places. The student needs the final exam report, maybe some marks of the last year, and a curriculum vita.

Dr. Suk Kang
The National Center for Research in Vocational Education

One of the of the reasons the labor turnover is so low is that there is mutual agreement among employers and employees that the new employee will be staying with the firm the rest of his life. The employer can invest more in training because they can receive good return for the investment. In recruiting workers, the most important factor is how well they did in high school. And to do well in high school, you have to do well in junior high, even in elementary school. Society--teacher, parents, family--encourage and even pressure kids to do well.

Narrator

Training is important to employers in all countries as they strive to improve the productivity of their workers, enabling their companies to compete nationally as well as internationally.

David Holscott
NSMPA

We believe we are in an economic world war and we are losing that war. That applies to industry across the county. A few short years ago it was a company in Columbus, Ohio competing against a company in San Francisco. That is no longer the case. Companies in our country are facing global competition. So it's a company in Columbus or San Francisco competing in Brazil, Mexico, Africa, the entire world. What it means is the person on the job is competing against others who are willing to work for a lot less money. And, therefore, we must work harder and smarter. What it comes down to is skill level--the ability to understand and improve the process.

Recommendations for Education and Training

Narrator

Our research suggests a number of recommendations for human growth and development that will lead youth to get better jobs and to improve their productivity on the job. These recommendations are for schools, students, and employers and are intended to . . .

- improve teaching and learning, strategies
- help students obtain good jobs after graduation
- and improve on-the-job training

Recommendations for Schools

Robert Slavin
Center for Social Organization of Schools
Johns Hopkins University

Increase recognition for educational accomplishments

You have a situation where one student's successes often reduces the chance that another student will succeed and this makes it so that you have kids who have norms against doing well academically because to do well academically is to hurt your peer group. This is just opposite of the situation, for example, in sports where one person's success helps the whole team and team's success helps the whole school so that success in sports is very strongly supported by peer norms where as success in academics is much less so.

Recognize student improvement

There are a number of ways of changing the reward system, the incentive system. for doing well academically, so as to make it such that success is available to different students and so that success is valued by the peer group.

Use cooperative-learning strategies in classrooms

Another one is the use of cooperative strategies in the classroom where students work in teams which are something like sports teams. You try to capture the same motivational dynamics that are going on in sports.

John Strebe
Math Teacher
Mt. Hebron High School
Elicott City, MD

I'll teach a short session in class, much shorter than I've ever done before--maybe 50% of the time I used to spend. The kids then will be given an assignment and they will teach one another. They will be teaching where I would normally have been teaching. And the nice thing about it is, they're learning to teach one another and to depend on each other.

Barbara Dandridge
Assistant Principal
Mt. Hebron High School
Elicott City, MD

In the traditional setting students are taught in a way--geared in a way--to be selfish about their knowledge. "I can make an A. I'll outshine everybody else." In this setting they get to really share that knowledge, it's spread around a little bit and the unselfishness is a plus.

Encourage closer student-teacher relationships

Amitai Etzioni

Our schools, especially our high schools have been reorganized after Sputnik to allow for what is called a quick shuffle. As you know, in many schools the teacher stays put and every 45 minutes or so the kids get shuffled to a different classroom, to a different specialty. That prevents, as if designed by some mad sociologist, and deep relationship from developing between the teacher and the student. And I asked a teacher once, if a child has a divorce or death in the family and the child is falling behind on all work, is the teacher going to do anything about it? And the teacher said, "I wouldn't even know about it."

Share detailed records on student accomplishments

John Bishop

The labor market fails to recognize and reward academic achievement primarily because employers find it difficult to assess and evaluate that achievement, schools can create stronger incentive for students to excel in school if they help such students signal their excellence to employers.

Dr. Beatrice Reubens

In several foreign countries assistance given to students seeking employment when they leave secondary school is considerably greater than what is offered in most American schools. It's partly a function of the availability of more detailed records on the performance of students and the ability to send those records out to prospective employers.

Help students prepare job-search portfolios

Juliet Miller
Associate Director for Information Services
The National Center for Research in Vocational Education and
Past President
National Vocational Guidance Association

There are several approaches people have tried here; it's worth trying them in other programs. One is to really work intensely with a counselor in a group guidance situation to help a student develop a specific portfolio which they can take with them as they go to apply for jobs. The portfolio should contain complete information on various activities that the student has done and really focus on those things that makes the student unique.

Develop competency profiles

Richard Jones
Principal
Howard Voc-Tech Center (Voc-Tech)
Elicott City, MD

For the parents and students, we hear reports that they are very pleased at the idea of having a progress report available at any time. For the employer, we are able to supply a very accurate appraisal of what the student can do--not just whether the student has been through our course.

Involve teachers in job placement

Juliet Miller

Job placement really is an important function and we have struggled with what to do with placement over the years. One model we have used a lot is to have one job placement coordinator who is responsible for all job placement activities. Some studies are showing that placement rates are lower when we assign that responsibility to one person.

Establish Referral Relationships With Employers

Clifford Roe

I was able to get a confidential basis established so I could get that transcript information. As a result, I was able to hire recent high school graduates for good jobs, paying high wages--jobs that would have gone to someone who had worked elsewhere and would have had experience.

Recommendations for Students

Get skill training

David Holscott

There are really only 2 options in our society; that is, to have a skill or to go to college. If college isn't for you, a high-skilled position is the way to go; and the name of that game is education, whether in a school or by an employer.

Build a good work-experience record

Roy Worthington

I would think the more experience a young man or young woman can have outside of an educational program, the more marketable they are going to be.

Build a job search network

Howard Rosen
Former Director
Office of Research and Development
Employment and Training Administration

What I am suggesting is that you may want to think about broadening your horizon of people you know as you go through school so that when the moment of truth arrives, when you do have to apply for a job, you have a wide number of people you can contact and talk to about the possibility of finding a job for you.

Prepare for the Interview

Ray Mason

One of the things I'm personally most impressed with is when someone can come in and sit down and ask some honest questions about the company and indicate that they have done a little bit of checking about the company.

Get complete information to make the best job decision

Howard Rosen

The informal method tells young people a good deal more about working conditions, about promotional opportunities, and about the kind of atmosphere you can find on the job--more than can ever come through in an interview, or through a newspaper ad, or a public or private employment agency. Therefore, the informal method really gives you a flavor for what that job is about and it is a very crucial factor in adjusting to a new job.

Recommendations for Employers

Get complete information to make the best hiring decision

William J. Dennis
National Federation of Independent Business

Right now (currently) small employers literally cannot use tests or any kind of objective measure to evaluate potential employees. The reason they can't do that, I should say, is that the cost of verifying the validity of these tests is just so great. They are prohibitive, that is, for smaller employers. For larger employers, the cost may be worth it. That's an enormous problem so an employer is faced with the situation where he may not make the best choice and if he doesn't make the best choice, he has high turnover. When there is high turnover, there is no incentive to train the employee. We're in the situation now where, after 10 years, only one in a hundred employees are with their first employer.

Increase investments in training

Roy Worthington

And I think that many companies feel this way--that training is an added luxury that many companies feel they can't afford. AccuRay, fortunately for me and I think fortunately for our associates, has a great deal of faith in training. We feel that it is necessary to train our people in order to be productive and to be profitable for us.

Develop a pay structure that reflects training received

William Dennis

Generally, the wage structure appears to be tilted where we tend to pay entry-level workers too much and relative tenured or long-term-type employees too little. So a restructuring of wages [is needed] so that entry wages are perhaps lower and, as the individual progresses through training and becomes more useful to the employer, his or her wages rise commensurately.

Develop training certification standards

David Holscott

What we would like to develop is a performance test [or] performance standards for the precision metal-working-industry. As we envision it, it would have two parts. A period of 4 hours cognitive and 4 hours of hands-on testing so an individual, regardless of his [or her] training, the length of the training, or where it took place, could take the test and if he [or she] passed the test would be certified at a certain skill level. The beauty of it is that you don't lock an individual into a particular course or program. The other side of the coin is that the employer will have some level of confidence that the individual possess a certain skill level. The other interesting factor is, if we can get performance standards developed and employers to adopt them, schools would have a level to train to.

A Research Agenda

Narrator

The recommendations just presented were suggestions for improving education and training. Another important purpose of this program is to initiate a dialogue about a research agenda.

John Bishop

It is often assumed that the impact of a school program on a student's earnings is equivalent to its impact on the productivity of the economy. While earnings impacts are important in their own right because they influence the incentives to undertake a course of study and to work hard at

it, we have seen that this assumption opens a Pandora's box of difficulties for the researcher; it also opens a window on a whole new set of important and interesting questions that have not been addressed before. How does a worker's productivity depend upon achievement in specific curriculum areas. How does it depend on the occupationally specific training within the general area of communication, what the relative role of listening versus speaking, of reading versus writing.

We found that a sense of control over one's fate had major effects on earnings. What about other traits of character, like reliability, honesty? What are their effects on productivity and on wage rates and earnings?

Even more important is research into how schools and teachers can help their students develop the various skills and abilities we have identified as being important for a productive worker. During this program we have highlighted just a few of the many innovative strategies some schools are using to motivate their students to teach them new skills and help them get better jobs.

We need longitudinal research on what happens to students who have studied at schools that make great use of coop learning techniques. Are they better on-the-job learners as we have hypothesized? Are they also faster learners on-the-job?

Another issue that needs study is mentoring. How can schools be restructured to promote the development of a mentoring relationship between teachers and students? How can mentoring be fostered on the job? The program made the point that better communication between schools and employers about student achievements will have two salutary effects. It will strengthen incentives for studying and learning that students would have a better shot at the better jobs: those that offer considerable training and opportunities for upward mobility. The program suggested that schools could aid students in this regard by encouraging them to carry transcripts with them when they search for work, by developing competency profiles and job search portfolios, and by encouraging teachers and guidance counselors to establish confidential referral relationships with local employers who offer attractive jobs to their graduates.

What we need to know. How are these approaches working in the schools that have implemented them? What is their impact on student motivation? Have students found it easier to get good jobs as a result? How have the interests of the less-gifted students been protected?

Macro Question

What agencies best prepare which individuals for what kinds of occupations under what conditions with what effects at what stage of their lives?

It is obvious that the problem of youth unemployment must be addressed by all of education--both academic and vocational--and the employment community as well. Further solutions to the problem must include the cooperative efforts of the numerous research, educational and training institutions in our audience today. Additionally, this will require adjustment on the part of education and training institutions in terms of specific hiring practices, on the job training, and issues as specific as pay. To initiate this collaborative effort, we welcome your comment on the information that has been presented and encourage your recommendations on areas for further research.

AUDIOCONFERENCE QUESTIONS AND ANSWERS

AUDIOCONFERENCE QUESTIONS AND ANSWERS

Nine audioconference sessions were held to discuss the research and recommendations that were presented in the videotape "Education and Employment: Where We Are and Where We Ought to Go." These audioconferences were held on March 26, 27, and 28 and May 29 and 30, 1985. Each session lasted approximately 60 minutes. Richard Miguel, the forum director, served as moderator for the sessions. The facilitators and participants at each site posed questions to the following panel of experts:

Consulting Scholars

Dr. Harry Silberman, Professor of Education, University of California, Los Angeles
Dr. Amitai Etzioni, Professor of Sociology, George Washington University
Dr. John Hunter, Professor of Industrial Psychology, Michigan State University
Dr. Howard Rosen, Forum Director, Research and Development, Employment and Training Administration, U.S. Department of Labor
Dr. Kathryn Borman, Professor of Education, University of Cincinnati

National Center Staff

Dr. Robert Taylor, Executive Director
Dr. John Bishop, Associate Director for Research
Dr. Kevin Hollenbeck, Director of the Hiring Decisions Research Program
Dr. Larry Hotchkiss, Director of the Schooling Effectiveness Research Program
Dr. Suk Kang, Labor Market Econometrician
Ms. Margo Vreeburg Izzo, Assistant Director, Field Study of Newly Employed Youth

Collaboration

Utah: How can collaboration between education and business be improved to strengthen the relationships between the two?

Taylor: Job rotation for educators and employers might be good, but you really have to try every possible method. There is an insularity within the teacher education system that tends to turn teachers out never having been touched by the world of work. The business community should be concerned about this, and maybe we can involve them in the solution to this problem. For example, they could help with technological update and rotation of teachers within industry.

Silberman: There's another side to that question. On the one hand, you want academic and vocational teachers to have enough work experience to be up-to-date on what their students will be experiencing when they leave school and enter the work force. On the other hand, it is also important that persons who are teaching part-time in high school begin to take extra courses to learn how to teach better, learn the latest information about instruction, and work toward their baccalaureate degrees.

Utah: What are the advantages of employer input into vocational education?

Bishop: One thing we're planning to do is a longitudinal study of 10,000 young people who graduated from high school in 1980 and another 10,000 who graduated from high school in 1982. There are 1,000 high schools in that sample. We have data on about 500 of those on the nature of the vocational program that existed in that high school and on the degree of employer involvement in that program. We intend to look at whether students who went through the vocational programs that had more extensive employer input benefitted more in terms of higher earnings and wages than others.

Taylor: Another ongoing project looks at appropriate involvement of representatives from the business community in the evaluation of vocational instruction. This grows partially out of a national survey that we did with the National Association of Manufacturers which identified ways that they thought they should be participating in the school program to improve its relevance to the labor market and its content in respect to job skills and to gain some sense of evaluation and curricular update.

Pennsylvania: What is the strategy to get the business community and the chamber of commerce to directly impact the basically college prep-oriented curriculum about careers?

Silberman: It takes a cadre of people in the school system to approach the business community and visa versa. It takes a group of business people interested enough to change the schools. We've seen some college prep or strongly academic high schools that used community advisory groups that included people from business and industry who had a significant role to play in defining elements of the curriculum. But we've also seen comprehensive high schools that had advisory committees that were merely rubber stamps and didn't have any say at all in the curriculum. A lot of it depends upon the board, superintendent, and principal, such that when they establish advisory groups they are very serious about giving those people full partnership roles.

Utah: How can the needs of business and industry be communicated to principals and other educational decisionmakers?

Taylor: This can best be done by business people talking directly to superintendents, school boards, principals, and others. More extensive use of advisory groups would be another way. Also, schools could hold an industry day where employers and personnel directors could visit the school to work with principals, curriculum specialists, guidance counselors, and teachers.

Basic Skills

California: Could you define basic skills, particularly from the employer's viewpoint?

Bishop: Employers use the term in a loose manner. We had some employers mention blueprint reading under basic skills and personality traits under basic skills. People are using these terms in a great variety of ways. However, the way we viewed basic skills was the way the Nation at Risk and other commission reports have--as basic communication, reasoning, and mathematical abilities. Tests that measure those abilities and skills have been found by Dr. Hunter and by other industrial psychologists to be highly correlated with productivity on the job. The reason is that the people with those skills are fast learners. They learn job-specific information quickly and thoroughly. So basic skills have an impact on productivity primarily because they improve the ability of the individual to learn on the job.

Utah: What basic skills are employers really looking for?

Bishop: Some employers do mention skills such as blueprint reading, but the more traditional definition would be learning ability--being able to learn things fast. The key is communication abilities--reading, writing, listening, and speaking. Students don't have many opportunities to practice making verbal presentations in groups except maybe in extracurricular activities--even then it's unusual. The other is reasoning abilities. These are the basic cognitive skills that came up over and over again in our studies.

Utah: Is one basic skill more important than another?

Silberman: It's almost impossible to separate these skills by their importance--they're not mutually exclusive. It may be neat and tidy to compartmentalize these learnings in the school but that's not the way it works. Specific job training, for example, can motivate youth to learn certain academic skills because of their perceived relevance. All courses have the potential to contribute to the acquisition of basic skills.

Taylor: Which stave in a barrel is most important? They all are. One of the concerns in the Unfinished Agenda was strengthening the ties between academic and vocational courses so that the academic learning could be applied in problem-solving situations and have greater utility in the workplace and life in general. These skills are interdependent, but this fact is too often overlooked.

Maryland: What can be done to teach students how to become more functional with the skills they are learning?

Silberman: One of the recommendations of the high school study commission was to strengthen the relationship between the academic and vocational offerings of schools and to view vocational programs as a way of strengthening the application of basic skills and problem solving. I think one of the ways that you develop problem-solving ability is, in fact, to solve problems. The applied learning of vocational classes is rich in problem-solving opportunities and reinforces problem-solving skills.

Bishop: One fundamental problem that exists in our schools is motivation on the part of students. Our students spend an average of 4 hours a week on homework, 20 hours a week watching TV. Their total hours spent in an instructional activity or homework is under 20 hours. Greater motivation is needed. It can be obtained through the cooperative learning strategies suggested by Bob Slavin. Etzioni was emphasizing closer student-teacher interaction, and we're

also suggesting showing a greater connection with the labor market success of the youth after leaving high school. All these in combination would help improve motivation.

Iowa: Some studies tells us that employers prefer basic skills, personal skills, and interpersonal skills. In the tape, we hear a strong push again for job-specific skills. Can you give us some direction because, quite frankly, schools are in a quandary as to which direction to go to make our students marketable for entry-level employment?

Silberman: We think that this is not a case of either/or. All students need both vocational training and basic skills. The recommendations in the Unfinished Agenda proposed that all students have a balanced mix, that everybody be exposed to a comprehensive program that includes both basic skills as well as experiences that will promote positive attitudes and also develop specific job skills.

Taylor: About 2 years ago, the National Center worked with the National Association of Manufacturers to deal with some of these same issues, and the response there was that while employers did in fact want the basic skills. They also wanted employability skills and vocational skills. They thought they ought to be able to get all three. I think we've got to work hard at how we strengthen and reinforce basic skills throughout the school program. We've got to strengthen some of the earlier education in middle schools, and so on.

Montana: Are basic skills and occupational skills dichotomous?

Etzioni: We don't have this division of labor exactly as it ought to be, and we don't have to be rigid about it. But, if I could pull a magic lever and deal only with self-discipline, work habits, and basic academic skills and leave blueprint reading and other specific skills to the employers or the programs they pay for, then I would be satisfied. I would go further than the existing system in separating the two.

Silberman: The winter 1984 issue of the Review of Educational Research discusses what schools can do to promote reasoning and civility, which employers say are very important. One of the authors, an anthropologist, pointed out that basic skills and academic learning are not very transferable. We often assume that academic skills are highly transferable, and that the specific training is not. This just doesn't hold up in the research.

Nebraska: Since basic skills are important, does this mean a greater emphasis on academic requirements or increased integration of those skills into vocational curricula?

Silberman: The National Commission on Secondary Vocational Education felt that rather than just adding more academic requirements, the schools should look more to vocational courses as a way of reinforcing basic skills.

Bishop: We found that the share of credits that were in vocational subjects did not have a large effect on the development of basic skills. Business and office curriculum raised verbal test scores, and a technical curriculum raised math test scores. The thing that did have an effect was taking a college prep curriculum. I don't know if that is something we want to recommend to everybody, but substituting a college prep curriculum for vocational courses does raise basic skills. However, substituting general math or non-college prep English for vocational courses does not improve basic skills.

Oregon: Are there model programs addressing basic skill deficiency for dropouts who are brought back into a program designed to serve their needs?

Silberman: You might look at Vocational Village (Portland, Oregon) as a model. We have seen some special programs where there are certain high school magnet programs for young people who are interested in a particular occupation, who get involved in lots of experiential field learning, and for whom the field learning is used as a motivation to patch up their deficiencies in basic skills.

Alabama: What skills should be taught in academic education that would assist students in obtaining employment?

Hunter: At the moment, there is practically no database that I know of that has asked the question--Which particular courses tend to be related to which particular kinds of work? There's been a small amount of research done in the military. They attempted to see if they could predict performance in training school by taking into account what specific courses students are taught. On the other hand, that doesn't mean that better research couldn't be done. Using content analysis of the job to select or look across a configuration of courses might lead to better results in training.

Kang: Acquiring good verbal skills will help a youth get a job in the labor market. In the study of high school graduates' labor market outcomes, we looked at students' vocabulary and mathematics test scores while they were in high school to explain labor market experiences. We found that doing well in vocabulary tests had a very positive effect on employment after graduation. It looks like verbal ability has a very strong effect on obtaining jobs. However, we didn't find any evidence that vocabulary has a strong influence on wages.

Bishop: In the curriculum effects projects, we examined the effect of courses on finding employment and on earnings. We found that taking a vocational program had a very large effect on earnings, the wage rate, and months employed. We also found that math and English courses had a more positive effect than did the other academic courses like foreign languages, science, and social sciences. Taking more of these type of courses actually lowered one's earnings during the period immediately after high school for youth who did not go to college.

Washington, D.C.: How can we be sure that education and training are responsive to the skills demands of the real world?

Bishop: Youth should give primary emphasis in school to basic cognitive and vocational skills. When searching for first jobs, they should choose jobs that afford the most training rather than the highest wage. This strategy has the best long-range payoff.

Rosen: The Bureau of Labor Statistics of the U.S. Department of Labor publishes a volume every 2 years entitled, Occupational Outlook Handbook. This handbook provides information on employment prospects by occupation for the next decade. In addition, it also provides excellent information on how the labor market operates, how to secure a job, and how to develop a job search network. This is an easy way to get a primary understanding.

Cognitive Skills

North Carolina: What measures were used in evaluating the relationship between SAT scores and productivity, and what occupations were included in the study?

Bishop: Most of the productivity studies use performance evaluations on the part of supervisors. A variety of occupations have been studied. The higher the complexity of the job, the

higher the correlation is between SAT scores and productivity. Interestingly, clerical jobs were very highly correlated which implied that these communication abilities and reasoning skills were extremely important in that occupation. There is always a question about performance evaluations made by supervisors; so the industrial psychologists have not left it there. They've collected work sample information on the performance of people, and they found that when they directly measure productivity through an assessment of the output of an individual, they get a similar correlation. So the finding of a large effect of cognitive ability in productivity is supported both when you use job performance evaluations and when you use a direct measure of productivity.

Georgia: Are there other measures recommended from your research other than SAT scores, or are SAT scores about the best information to give to employers for students going directly into employment?

Hunter: The SAT was mentioned simply because it was a test that would be widely known among the audience. Actually, the bulk of the research did not use the SAT. The bulk of the research used standard employment tests such as the GATB--the General Aptitude Test Battery. The two key tests that go into the measurement of cognitive ability and job performance are vocabulary and arithmetic reasoning. The Army ASVAB and the General Aptitude Test Battery have good vocabulary and arithmetic reasoning tests. There is a wide variety of test batteries that would be equivalent.

Illinois: Are SAT scores available to employers since there is a correlation between a good employee and high scores?

Bishop: Not unless the students include them on their job application. Students who are proud of their SAT scores should share them with employers because this will probably help them get a job.

Hunter: In terms of advising employers as to a way to get good test scores, there is a program in the U.S. Employment Service called the Validity Generalization Program that is used heavily on a pilot basis in North Carolina, Michigan, and a number of other states. At request, employers can have the U.S. Employment Service test for themselves. They use the General Aptitude Test Battery or GATB in other areas as well.

Washington, D.C.: Which is better preparation for work--cognitive or vocational skills?

Silberman: These are not mutually exclusive categories. The position of the Unfinished Agenda was that most of the school reform reports like A Nation at Risk ignored vocational education. These studies suggest that schools are trying to do too many things with limited resources. Consequently, they proposed that schools should concentrate on what schools do best, namely, provide basic academic instruction. We feel that what they assume may be wrong. In other words, they assume that academic instruction is intellectually more demanding and, hence, the best preparation for work. We felt that this is a false assumption and that you can't determine the transferability of a particular course by its label. It rather depends on how the course is being taught; not a matter of cognitive or specific vocational skills, but both.

Arizona: If cognitive skills and SAT scores give a 20 percent increase in productivity, why would vocational skill development be necessary at the secondary level except in highly specialized areas?

Bishop: The reason why higher performance in cognitive skills is related to productivity on the job is that it improves job knowledge. The route of influence is that cognitive skills help you learn fast and completely. Therefore, cognitive skills contribute to vocational knowledge and skills, which in turn make a person productive on the job. Vocational skills, then, are a critical link and are necessary.

Maryland: What is being done to correct the present erroneous notion that cognitive abilities are not necessary to enter vocational education programs?

Silberman: The Unfinished Agenda is a document that you ought to read. We discuss the promise of vocational education contributing to general education and the cognitive abilities of students. Then we discuss a series of problems all of which have to be addressed if we're going to rectify this perception that vocational education is somehow separate from the general educational development of the student.

Attitudes

Rhode Island: How can we improve upon the situation that youth do not succeed in the workplace because they lack positive attitudes and behaviors?

Bishop: Amitai Etzioni recommended that young people plan ahead and accomplish a goal. Also, one way to build a good work attitude is to do homework independently of other people and have it evaluated quickly.

Silberman: The most pertinent suggestion came from Slavin's proposal to use cooperative learning strategies which can be a a vehicle that is valuable in altering the attitude problem many youth have. Research is needed to verify the effectiveness of that approach, however. Personal observations convinced him of the cooperative learning approach.

West Virginia: Should attitude development (as it applies to employment) be incorporated into the curriculum, and if so, what percentage of the curriculum should be devoted to attitudes?

Hollenbeck: We don't have any data to suggest a specific percentage of the curriculum, but we have observed programs that have successfully used techniques such as videotaping and mock interviews with good results. These generate experiences rather than lecture.

Etzioni: Attitude is the superficial end of it. The key factor is personality traits that are shaped relatively early in life and if they're not shaped properly, they need to be "fixed" later. It's not a question of verbal attitudes or normative positions, it's a question of developing psychological stamina, self-discipline, and the capacity to concentrate. According to my data, that's the most important factor.

Taylor: The old adage that "attitudes are caught and not taught" applies here. Every day educators are reinforcing and transmitting attitudes. Examining these attitudes to ensure that they are the positive attitudes we want youth to develop may be a more powerful approach than a direct attack that carves out a segment of the curriculum. This is an issue for the entire school to deal with. If all educators and students are together on this, they can reinforce one another.

Oklahoma: Is there any scientific evidence that shows that public secondary schools are as effective in developing work attitudes and preparing youth for employment as they are preparing them for higher education?

Bishop: Implied by your question is that youth aren't prepared for employment as consciously as they are for college; that definitely is the case. Most likely, it's the vocational programs that are consciously worrying about preparation for employment. The rest of the school is fixated on college

prep. The effect of school on development of good work attitude--this is an area where there hasn't been much research. In a large data set of 1,000 schools and 30,000 students, we had some measures of work attitude as well as disciplinary problems in the school. In analyzing those outcomes, we found that an important variation in attitudes was affected by school policies and other characteristics of the school. We also found that locus of control--a sense that if I plan to do it, I will be able to pull it off--was very strongly associated with success in the labor market immediately after high school for those who didn't go to college. This concept is closely related to Etzioni's concept of self-discipline. This belief, that one is self-efficacious, is an important thing for school to develop in youngsters, and exactly how it's developed needs to be researched.

Silberman: Tracking practices of many schools affect students' attitudes toward employment as compared to going to college. If you put all the bright students together and you put all the students with less ability or lower motivation over in the shops, that sends them a message. It sends all the kids the message that the better students are going on to college. Tracking practices are very insidious in their effects on attitudes toward employment after high school. In visiting schools around the country, what impressed me was that in smaller towns there seemed to be more of a tolerance or acceptance on the part of the principal that preparing for employment was a legitimate enterprise of high school students, and I think this was the attitude of the teachers as well. I remember when I wanted to prepare for an occupation in high school, my teachers let me know very clearly that it was a big mistake for me to go on to acquire some type of trade. They felt I ought to go on to college. I think teachers have a tremendous influence. If principals don't take active steps in providing the leadership to let their teachers know it's all right for many students to prepare for work after high school, then teachers will develop the other attitude.

South Carolina: <u>If basic personality traits can be used to match persons with jobs, how are these traits measured and at what age can these traits be validly measured?</u>

Hunter: There is little evidence to suggest that personality is actually related to job performance. The only evidence that has held up well has been in the area of management. It is true that personality tests can be used to predict who will do well in management. Most of the traits would be the ones you would expect, having to do with dealing with other people. The same is also true for sales. When you get away from those two areas, there is little evidence to suggest that personality traits are related to job performance.

Silberman: When I listened to the videotape I heard Amitai Etzioni refer to self-discipline or self-regulation skill as a personality characteristic. Certainly in any job that requires people to perform work that is nonsupervised, self-regulation skills would be extremely important. Such skills are evident in the way students complete their assignments.

Bishop: We need to remember that it is really hard to measure personality. What John Hunter was referring to was the ability of various tests that have been developed and other techniques of assessment of personality to predict job performance. Employers keep saying that the personality of the individual as they see it makes a big difference in the productivity of the worker. The problem is that no one can really assess that personality very well. The interview does a poor job of assessing personality. Personality is blamed for everything that goes wrong with the job. Partly, it is because we can't anticipate what that personality is from the kinds of information we have when making hiring selections.

Hunter: I think also that personality plays a major role in how particular supervisors respond to particular employees. It is a highly personal response rather than a response on the basis of job performance. This doesn't show up in research because of the fact that it is highly idiosyncratic. That is, when we look at how much agreement there is between how different supervisors rate the same workers, the degree of agreement is in fact very low. Well over 40 percent variance is due to the idiosyncrasy we call the "halo effect." It is likely that this is where personality plays a part. A personality trait that is crucial and evaluated positively by one supervisor is not crucial or evaluated in the opposite direction by another supervisor. Unless you match the personality of the individual with the supervisor, it doesn't show up in overall research when you average across supervisors. What you tend to get is elimination of the idiosyncratic personality requirements.

Izzo: We saw an excellent example of this in the Field Study of Newly Employed Youth Project, which was completed here in December of 1984. This project studied 25 youth in great detail over a 1-year period. We watched how they moved in and out of the labor force and analayzed why certain kids lost jobs and other kids kept jobs. One important factor was being able to match the personality of the youth to the personality of their manager. For example, in a sheet metal shop, we had a very reserved, quiet, nonverbal supervisor who had three of our youth working there. One of our subjects was a very quiet, withdrawn individual who obviously made the correct choice when he chose to work with

machines. This youth was judged to be a very poor achiever in his vocational classroom. The vocational instructor was very hesitant to even recommend him for the job. Another youth who had won classroom competition and had gone into state-level competition was very highly recommended. He was very outgoing and outspoken. This very outspoken youth was fired within 3 months because he could not get along with his supervisor who was very task oriented. The very withdrawn youth who was almost not recommended for the job has been promoted within a 10-month period to actually take the place of the supervisor in the supervisor's absence. That's one isolated instance when a personality match was really critical to a successful job placement. One reason why we recommend informal networking and getting information in job selection is that there are a lot of things like this that people need to find out in advance.

Montana: If secondary schools concentrate on developing self-discipline and other psychological traits, what are the implications for evaluating educational programs?

Etzioni: Evaluation requires shifting from either basic skills or specific skills and relatively more emphasis on the personality end. This requires all teachers to go beyond the traditional pedagogy of lectures and discussions to include all the experiences that the student has in school. All opportunities that generate experiences will shape the personality of the student.

West Virginia: Are there any changes being considered in the labor laws that will facilitate the practice of mentoring in the workplace?

Rosen: I know of no laws proposed at this time that would affect mentoring.

Bishop: Mentoring is such a personal thing. I don't see how you could have a law that encourages it.

Hawaii: What is the role of occupational and career information in employability development?

Rosen: Career information is an extremely important part of the whole educational and training experience. I think this country hasn't done well enough in teaching our young people about the occupational choices, training required, earnings, and the kinds of skills required. Now, we're just beginning to make a modest impact on this whole area of information that needs to be developed far more than it has been.

Alabama: Since Japan and Western Europe seem to have a more positive attitude toward education and employment, what can be done to develop a similar attitude in the United States?

Taylor: Clearly, the work ethic is alive and well in the Federal Republic of Germany. I am told that workers who become unemployed frequently leave the house in the morning with a lunch bucket and come home at the end of the day so the neighbors won't know that they're unemployed. And, Germans are highly motivated. It's a part of their culture, a part of the family structure, and something that we're going to have to work on at every dimension. And, it's tied into some of the other social issues that we're dealing with presently.

Bishop: What is crucially different between the Japanese and the Germans and Americans is that the transition from school to work in those societies is into a long-term job--possibly a lifetime job. Everyone is a lot more careful about that transition as a result. And, there is very stiff competition for those training places in Germany, and very stiff competition for the positions at the better companies in Japan. Performance in high school has a very direct impact upon who wins that competition. In our society, how you did in high school has very little to do with how successful you are in competing for the best job. If the success in the work force were more a condition on success in high school, we would find that students would work a lot harder in high school. That is, at least one difference between their societies and ours and one that some of our recommendations would tend to correct. But, there would be no way that we would ever be able to get to the level of competition that exists in Japan, given the fundamental structure of our society.

Job Search Skills

Washington: Don't all students, regardless of curriculum major, need to learn job search skills?

Taylor: Yes, all students need these skills. They can be provided by a teacher or counselor who is current regarding the labor market. Because all students need these skills, they should seek training in them wherever they are taught--regardless of whether it is their "curriculum major."

New Jersey: Should employability skills (e.g., how to get a job, how to act on the job) be taught to the exclusion of occupational skills which some employers say they prefer to teach themselves?

Taylor: Basic skills, social skills, and employability skill tend to come in that order and in that priority. That does not rule out the need for some vocational skills as part of the secondary school program. I'd be very careful in my questions to employers to look at the size of the company, what percentage of my graduates are going into large firms that may have training programs, and any corporate style that's unique.

Etzioni: This may require a little more study. What employers may really mean when they say social skills is that they have a certain image of a person in mind, and they want to make everybody in that image.

Ohio: How could a curriculum be implemented to give students a good understanding of the informal culture and organization of the workplace in order to improve their employability?

Rosen: An excellent curriculum could be built around teaching people how to find jobs. The Department of Labor and many labor economists have been studying the labor market for years. Their surveys show that most employees find their jobs by applying directly to an employer. Second, an important way of finding a job is through friends and relatives. Not only can you teach people about how the labor market operates, but you can also teach them how to complete an application and how to present themselves to an employer. A very good curriculum could be built around those job search strategies that research has already proved work.

Taylor: One way to understand the informal structure is to be a part of it--perhaps through work experience or cooperative placement with attention to the informal structure and discussion of it in class.

Borman: The most successful young workers sought out sources of informal information that eased their passage into a job and increased their employment longevity. Incorporating this into a curriculum would be a challenge and well worth doing.

Hawaii: What is the role of occupational and career information in employability development?

Rosen: It is an extremely important part of the whole educational and training experience, and I think this country hasn't done well enough on teaching our young people about the occupational choices, training required, earnings, and required skills. Now, we're just beginning to make a modest impact on this whole area of information that needs to be developed far more than it has been.

Hawaii: What techniques are effective in locating unlisted job openings, making contacts with potential employers, and marketing oneself?

Rosen: The most important way people get jobs is by applying directly to an employer. If an applicant thinks an employer hires people with his or her skills, he or she knocks on the door with an application. That employer may not have a job listing or a job vacancy but if the applicant shows up with the proper credentials, the employer may be interested in interviewing and hiring him or her. A very important part of the job-seeking effort is this informal network of friends and relatives. The newspapers and agencies are important sources but not the only ones. It's that informal network that gets to be more and more important the older one gets.

Bishop: I would just like to echo Rosen's comments on the importance of informal networks. There is a great incongruity between the methods that employers use to search for applicants and the methods used to get jobs. Research has shown the importance of friends, but more important and most effective are acquaintances outside the immediate circle of friends.

Silberman: Lana Brenes, one of my students, did a doctoral study showing that strength of ties depends upon the nature of the occupation. Evidently, for professional and managerial occupations, weak ties are more effective in getting a better job offer, but with regard to clerical and service type jobs, the close knit friendship group is much more effective in helping the job applicant find a better job.

Arizona: What can be done so that employers will make better hiring decisions?

Hollenbeck: Hiring practices can be improved by having more information passing between the job seeker and the employer--in particular information about competencies. Secondly, our research shows that informal recommendations from past employers, teachers, and friends result in benefits to the employer in terms of increased productivity and reduced training and benefits to the employer in terms of lower turnover.

Rosen: When employers want to reach the largest possible audience to publicize a job opening, they use the newspaper. However, newspaper ads don't tell very much about jobs. They provide little information on such things as wages and working conditions. By using newspaper advertisements, employers encourage many who are not qualified to apply for jobs.

Washington, DC: What are the new court rulings that have expanded or liberalized the use of aptitude tests in making hiring decisions?

Bishop: The court decision are beginning to turn around on this. Hunter found that irregardless of the occupation, these tests are just as valid at one firm as another firm. The validity of the test determines whether the test can be used in job selection. There have been some cases where firms have justified the use of a test by certain evidence from studies done on smaller jobs at other firms. That's the only way that small and medium-size firms can use aptitude tests because a validity study on their own personnel is expensive. Small firms wouldn't even have enough employees to validate the test across the occupations in a firm.

Arizona: Are there differences in hiring practices between larger and smaller employers?

Bishop: Larger companies typically pay higher wages; they have better fringe benefits; they generally offer more training. Those jobs are more attractive so employers can be more choosey, and they are. They expect experience and they get it. The only way a person directly out of school can compete for those jobs is to have been enrolled in a strong school program that has a good reputation with those employers.

Arizona: Have competency certificates been well received by employers?

Bishop: Richard Jones, the principal featured on the videotape, said the employers were very happy with their competency profiles, feeling that they were getting a lot of the competencies they were looking for. JTPA has moved into this area as well. It is a common practice to use competency profiles both as a motivating factor during the program and as a selling point when you try to market your students to employers. You'll find that when you try to market your students to employers, they want information and you have to give it in a form that's useful to them.

Training

Kentucky: Wouldn't training for specific job skills lead to obsolescence of those skills in a short time?

Silberman: The purpose of the specific job skill training is to make the whole instructional program more relevant to the

student. It serves as a way of motivating the student. Algebra and arithmetic also teach very specific skills that do not necessarily generalize to solving problems in the community. It is not as much the specificity of the skills but how they are taught.

Idaho: How can we get employers to reward youth for the in-school training they received and keep them employed for a longer time?

Bishop: The key to having students benefit more from vocational training or the development of basic skills is to communicate to employers that these students have those skills and that the productivity of workers with those skills is much higher. Currently, most employers don't know that 100 points on the SAT--both math and verbal--would be typically associated with a 15 percent improvement in productivity on the job. If we get that word out to enough different employers, we'll start seeing that the youth who obtained the basic skills in high school will be better rewarded on the job.

Taylor: That was a very perceptive question, and I would just like to comment on it in terms of illustration. I have a friend at the University of Minnesota whose wife wanted to reenter the labor force. She went to the area vocational school, took a program in banking, and got a job at the local bank as a teller. She was very pleased with herself, but suddenly after a few weeks found out that the tellers on each side of her were hired off the street with no training and were getting the same wages. It seems to me that vocational education has to concern itself more with the other side of the equation: how business organizes and establishes jobs and how it rewards training. It seems that if we have advisory panels that help identify the competencies that are needed and if we can verify that those competencies have been mastered, then we have a right to insist that those additional competencies be reflected in wages.

Wisconsin: Where will the responsibility lie for expanding training at the worksite--with mentors, with the employer, the educational system, government, the student, or the family?

Etzioni: I think the responsibility really is on the learner. There are 18 learners for every 1 teacher. Teachers can try to influence students to assume that responsibility through motivation and guidance.

Taylor: Everyone has to be involved, and we need to better understand the critical roles and strengths that each can

contribute to this process. The need for articulation among all levels of learning between education and employers and between academic and vocational learning is strongly indicated.

Oregon: What are the prevailing attitudes in the private sector regarding training and preparation for employment that takes place in the public sector, the value of that training, and its transferability to the private sector?

Bishop: We asked employers about the training that new hires had received previously. We were expecting to hear about vocational training provided at schools. In all the cases, they talked about training provided by a previous employer. This is consistent with the finding from the recent National Longitudinal Study that people report a lot of their training has occurred on the job at previous employers. The key role of school-provided vocational training is to give the person that entry training to get on the job ladder. Once they're into the system, the youth has to build on experience and training as he or she passes from job to job. One of the interesting findings in the NLS study is the answer to the question. Did you need specific skills or training to obtain your current job? 45 percent said "no." Of those who said "yes", 29 percent said schools and 28 percent said on on-the-job training.

Indiana: What is mentoring and how does that compare with training received in cooperative vocational education?

Bishop: Mentorship has the role of providing personal involvement as well as job skills. Therefore, it is similar to what goes on in industry--what one employer called elbow-to-elbow training. For mentoring to develop, you have to have close contact over a long period of time. Whenever you have one-on-one training on the job or tend to that type of relationship will develop.

West Virginia: Isn't elbow-to-elbow training hampered by minimum wage laws?

Bishop: Yes, it is. We found that jobs that are at the minimum wage level offer less training than jobs that are above that wage. There is much research that supports that minimum wage does prevent large amount of training. In the German apprenticeship system, apprentices are paid vastly below our minimum wage. So a submimum wage for jobs with considerable training might help. But that wouldn't necessarily result in mentoring--rather more training.

Utah: How can vocational education adapt its curriculum to include customized training for industry and how can the state or region manage those efforts?

Taylor: Start with the employers' precise specifications for performance requirements. Then develop curriculum and learning experiences to meet those requirements. Regional curriculum centers or other groups could exchange task inventories or job performance requirements. Through the Vocational Education Curriculum Materials database at the National Center, you can access the cumulative curriculum available in the United States.

Kansas: How can we get industry to accept skill training in lieu of work experience?

Bishop: Build a strong program; then go out to employers that offer good, high-wage jobs; sell that program to them; and refer to them one of your "stars" as your first shot to get in the door. Then hope that the star does a really good job and builds a reputation for your program so that in the future you can make other referrals to that employer. Some employers offer high-wage, high-training jobs and others offer less attractive jobs. Unfortunately, high school graduates are generally going into the less attractive jobs right now. To place your students into really good jobs, you will need to make a special effort.

Alabama: Is there really that much difference between German and American youth on how well they are prepared and how well they do on the job?

Taylor: Last year was the first year in West Germany that students who wanted apprenticeships did not get them, and that margin was very low. Until about 2 years ago, there was a law that required business to create apprenticeships equal to the number of youth. That was declared unconstitutional, but, by and large, a very high percentage of students who want apprenticeships get them in business fields. There is a very high obligation when more apprenticeships are created than there are job slots. Further, in the German situation, almost everyone who wants an apprenticeship gets one, but how good an apprenticeship you get varies. An apprenticeship at BMW is much preferred over an apprenticeship at a local bakery, and the competition is over which apprenticeship you get; which apprenticeship you get influences the nature of the career you can undertake after you complete it. Expenditures on training at the BMW plant tend to be very high though.

Rosen: We would have to reconstitute our society to persuade American youth that it takes 3 years to learn how to be a waiter in a restaurant. We hire waiters off the street, and many of our jobs are short-term training. Whereas in West Germany, young workers are willing to devote years to learn a particular occupation or trade--much more so than we are--and they do have betters waiters, whereas, we would have to persuade young people to be willing to take this type of long-term training, and that's not likely.

Illinois: What can businesses do to get trained workers to remain on the job once business has invested in training?

Bishop: Training makes workers more productive and it often reduces their chances of turnover. Turnover in the kinds of jobs that offer no training at all, is extremely high. Because workers learn a lot of things that are useful at the firm that provides the training but are not useful elsewhere, the worker will have to take a loss if they leave the firm that provides the training. Training reduces turnover if the training is of a specific variety that is useful at the firm and not in other firms.

Minnesota: What does the research show on subminimum wage and training?

Bishop: The subminimum wage type proposal that the administration has recommended is really just designed to help generate more jobs during the summer for youth who are in high school. We did recommend that there be subminimum wage for jobs that offer a great deal of training--an apprenticeship type position. The kind of training that occurs in Germany and the very broad training that occurs in Japan might be feasible here where the individuals receive general skill training that is useful at other firms. An employer is not going to provide that kind of training unless the youth makes a contribution toward cost by accepting the job at a lower wage.

Iowa: Why was there no recommendation for schools to offer training when there was a recommendation for students to get training?

Bishop: We did have a number of findings that support skills training in the high schools. We found that the youngsters who graduated from high school in 1980 who had 4 full-year courses in vocational education earned 47 percent more and had a 9 percernt higher wage rate in the immediate year after high school. So students ought to obtain skills training in high school. It certainly had very large immediate effects on the employment prospects.

Iowa: If employers are reluctant to provide training because of the high turnover and schools can't afford it, who is going to offer the training?

Bishop: That is the problem. Most firms are not offering enough training. The way to do a better job is to lower the turnover rate and to make better hiring selections. Job applicants should make better job selections up front and choose a job that offers good training and turn down those that don't offer training.

Virginia: In order to give educators something to go on, has there been any progress on a unified approach to skill certification requirements by grade levels (i.e., national or state)?

Taylor: This approach would help employers do a better job of determining what their job requirements are. Until there is a movement toward licensing or credentialing, it seems to me that you can strengthen the portfolio that your graduates leave the program with so that they have more than a transcript. There is a history of work experience, the kind of job that they have performed, and also some competency lists that would deal with mastery of essential trade skills.

Kansas: How will the recommendation on training certification standards be accomplished, and who will be responsible for seeing that the employers listen to this recommendation?

Bishop: The way it's working in the metal working industry (and I think many other industries have developed this) is that it has to be done by the industry association or a group of employers. A recommendation has to be sponsored by them, it has to be employer-initiated so they can be behind it. It is a matter of people volunteering to use it. The advantage is being able to tell if the job applicant already has the skills that you need.

New Jersey: What is the relationship of homework to vocational skills?

Hotchkiss: Students who get A's and B's in vocational courses got a wage premium for having gotten better grades. The relationship between homework and grades is implicit. In fact, the effects for having done well in vocational classes is even stronger than it is for a higher grade point average in all classes.

New Jersey: How can educators keep up with changes in the population, the shift from manufacturing to service, and technical changes?

Bishop: You will have to teach good basic and vocational skills and help students advertise the development of those skills to employers. You will need to establish a referral network so that employers will have confidence that your graduates can do the jobs and will be willing to hire them straight out of school, whether it be a vocational or nonvocational school.

Rosen: When the occupational skills in a particular locality begin to change, the relationships between the schools and the employers become far more important. If I were you, I'd be out there making sure that all of these local employers and those coming into the area know about my school system. I'd also involve them in curriculum planning and try to determine what kind of employees they're looking for.

Nebraska: How do you develop a competency profile to meet the changing job skill requirements of today's labor market?

Bishop: There is no inventory for job skills or for anticipating what will happen in the labor market. It is simply a matter of following occupational developments and keeping your training relevant to these changes. You can't develop such an inventory because there are 25,000 occupations and a small number of those occupations are going through important technological changes as a result of introduction of new equipment. You have to react to it as it comes along. With regard to competency profiles, you don't develop them for all jobs. You work out the objectives for instruction and then keep track of whether the students are accomplishing them. Each occupational program can have its own unique competency profile. Of course, it would have to be modified quite frequently as technology changes occur or as you change your instructional program.

Iowa: If you're going to have competency profiles, you would have to be looking at competency-based instruction. What is the status of competency-based instruction in the United States?

Taylor: It's uneven. I'm not hung up with the label competence, but schools need to have objectives and be able to specify what a student has learned and document this in some sort of portfolio that he or she leaves with. We need to have statements of occupationally relevant skills that have been mastered as well as work experience and other things that would contribute to giving the employer the fullest possible knowledge of the range of abilities and experiences that

that student would bring to the job. Hopefully, that would be reflected in wages.

Illinois: Prior work seems to be very important in students being able to remain on the job. Are you recommending that every occupational training program have some kind of experiential or on-the-job training?

Silberman: We recommended that every occupational program have a strong element either of cooperative education or at least a field-based learning component.

Colorado: Given the knowledge explosion and the rapid turnover of skill requirements for various jobs, should school-provided training be more generic or should it be related specifically to the skills required for local industries?

Bishop: A number of employers said they were looking for learning ability. It is clear that with the changes in technology, people are going to have to learn new skills every couple of years. Therefore, having that ability to learn new things is very important. Basic skills are an important component of that, but a variety of other skills are also important. You can't jump directly into an advanced electronics job without starting with a less advanced one.

Etzioni: That question needs to be answered in concert with two others: who does the training and who pays for it. Public institutions should focus on basic skills, but not exclusively. Corporation and for-profit programs should focus on the other end of the continuum because specific skills and information has a direct bearing on the provider.

Silberman: Specific skill training is not incompatible with generalizability. You develop specific skills so that you can help others. If you can help others, you will feel needed and good about yourself. This will lead you to try to develop new skills and will enhance the ability to learn. The ability to learn is probably the best preparation for an unpredictable future.

Cooperative Learning

Ohio: How extensive is cooperative learning in high schools, and to what extent is it being taught in teacher education programs?

Bishop: The high school teacher in the videotape was carrying out cooperative learning to its fullest extent. Unfortunately,

it is much less prevalent in secondary schools than it is in elementary schools.

Silberman: In the course of visiting classrooms as part of the activities of the National Commission on Vocational Education, I observed a number of vocational education classes using this approach. This is a very effective way to teach. Vocational education is unique in that it provides a natural opportunity for students to help one another, usually working on group projects.

Taylor: Vocational student organizations typically have a program of work through which students in various stages of the vocational program work together in joint activities and peer teaching.

Special Populations

Alaska: What strategies are most effective in helping special needs populations compete in the labor market?

Bishop: The cooperative learning strategy has been very effective. It has the effect of reducing the sense of isolation from the other students. Team competition gives the "special" youth who may be performing behind the rest of the class an opportunity to improve in order to make a large contribution to the team score. Team competition is effective in bringing that individual into the class and into the mainstream.

Wisconsin: What are some of the reasons for high youth unemployment among blacks and other minorities, and what are the implications for education?

Bishop: It certainly is the case that the share of young people entering the labor market that will be black or language minority is increasing. Our unemployment problem for youth may worsen even though the total number of unemployed youth may decline. The source of the problem is the deficits in job skills and basic skills. In addition, there is a problem with discrimination and a tendency of employers to perceive black youth as not being as good an employee as someone else. We have to overcome this by doing a much better job of education.

Massachusetts: Why is it no longer the contention that aptitude tests are unfair to minorities?

Bishop: Ten years ago, the American Psychological Association proposed that there be improved validation of the tests that were being used by employers in selecting people. At that time, it was thought that selections depended on very specific characteristics of the job. It varied a lot from firm to firm as to how valid a test was, and, therefore, every individual firm needed to do its own test and its own validity check to see whether that test predicted performance on the job. What the more recent research has shown is that variations in validity coefficients is due to sampling error. The second issue is whether there are differences between blacks and whites in terms of the validity of these tests. The research was accumulated, and they found that the tests predicted performance of blacks and other minorities just as well as the majority group.

Alabama: How can vocational and technical education respond to the employers' demands for "super men and women" when it also has to respond to meeting the needs of hard-to-reach populations (i.e., disadvantaged and handicapped)?

Silberman: That's a good point. Certainly we have to do both. I think industry is interested in getting a better product. We have to attract into our training programs a larger proportion of the better motivated, able students, especially those who are currently in the college bound tracks. We will also have to improve our efforts with the disadvantaged and the less able students.

Taylor: Society has to find a way to make these special populations employable and good citizens and economic producers, and that's one of the primary responsibilities of vocational education. There are ways that this can be done more effectively. Education is going to have to negotiate a little harder with employers to reflect in wage rates and job conditions situations that take into account skill development. People in educational programs with good basic and vocational skills in educational programs are not being rewarded in entry level jobs for those skills. Clearly, the employer is getting a bonus. Your comment was that employers want "super" persons--well, then they've got to pay super wages.

California: We're concerned about the videotape itself. As for the group interviews, they seem to zero in on honor students and were not representative of the broader base of students in the society.

Bishop: Well, I don't think we had but one, Susan, who was an honor student, and some of the other students were in vocational

programs. In any case, the guidance counselor chose the students on the basis of representing the student body and being able to communicate well.

Ohio: What can be done to eliminate the architectural and attitudinal barriers of both schools and employers in the training and employment of disabled persons?

Bishop: Our review of the literature tells us that the disabled are as productive or more productive than other workers on the job. We just have to do a better job of getting that word out to employers. Regarding schools, cooperative learning strategies are very effective means for mainstreaming handicapped youth.

Utah: What are the outcomes for handicapped youth and adults in overcoming the problems of placement and job performance?

Izzo: Employers now depend on the interview process to select their workers, and our research is showing us that the interview process is not a good predictor of performance. What we are attempting to do is find a more accurate way to match workers with employers so we can decrease job turnover and provide a better worker for that firm. A job portfolio can specify exactly the strengths and aptitudes of a particular worker. We feel that a school can provide a better product for the employer. We had a project here a couple years ago on employment of the handicapped where we actually extended the Individualized Education Program into employment. We took it from an individualized education program and moved it into an individualized employment program, and we kept the teacher, the job placement personnel and a rehab person involved until that disabled individual was successfully placed on the job. Then, when an employer ran into difficulties managing or training that particular individual, they could call on that team of individual who could advise the employer on the best procedures to use. We know that disabled persons are more reliable, have better attendance records, and have better job stability once they get that job, but it takes extra effort on the school's part to place that person with an employer.

California: How can training help disabled workers get jobs?

Izzo: We have to do a better job educating employers. Studies have shown that disabled people are good workers. The trouble is that employers aren't convinced. The President's Committee on Employment of the Handicapped estimated that

the unemployment rate of the disabled people in our society is between 50 and 75 percent. So the job placement strategies we're currently implementing are not working.

Minnesota: Even though the videotape did not touch directly on sex equity issues, I'm interested in knowing whether you have done research on why so many women are being trained in vocational programs for the so-called traditional fields, especially those that result in low paying jobs. Is there research being done on effective ways to improve the situation?

Taylor: Career choice is influenced by a number of things. Perhaps one of the strongest influences is the family, more so than a guidance counselor or a vocational teacher. Some of our research indicates that graduates of nontraditional programs have lower employment rates than the graduates of regular programs. There has been a lot of work done to devise specialized recruitment techniques and procedures, but we're just going to have to keep working on the problem at every level.

Bishop: The payoff to women who take vocational educat on was just as high as it was for men. I think that you shouldn't expect high school vocational education alone to solve a problem that is pervasive in society. The fact that women in high school often prepare for clerical jobs shouldn't be seen as entry to a dead-end job and that they're forever fated to be typists. What we need to do is take that clerical job as an opportunity to move up the occupational ladder into an administrative position and encourage that kind of upward mobility. The problem does not lie in the educational system, but rather in the nature of job hierarchies and access within a firm.

Alaska: What provisions are being made for the large segment of adults who may have dropped out of school or who may have been out of school for a long time?

Taylor: The key to working with these populations is flexibility and responsiveness, recognizing that they are individuals who have different needs and concerns. It's a job that will definitely require a partnership between the school and the business community. Also, our Adult Intake Assessment project, which will be completed in January 1986, will provide very helpful information on this concern.

Illinois: Are alternative learning environments effective for youth who do not adapt to the traditional school environment?

Silberman: I saw some things going on in Portland, Oregon, at Vocational Village High School. The students were all involved in an entrepreneurial activity. Students who were habitually absent and tardy suddenly changed when they got involved in a new child-care program. When I asked a girl about the sudden metamorphosis, she looked at me and said, "Well, these kids need me." That's the kind of thing that will help bring kids back to school. They feel needed if they get involved in cooperative learning strategies where they're helping each other and being of some service to the community. They feel important and, consequently, show up.

Taylor: We may need alternative learning sites, but I hope we keep trying hard to make the school attractive and to retain as much of our comprehensive system as possible. Let's not give up too early on that alternative for some of these learners.

Guidance Counseling and Placement

Arizona: In your research, have you found that students are getting adequate guidance and counseling from the guidance and counseling staff?

Taylor: The Unfinished Agenda recommended counselor-student ratios, but we are a long way from that. In the interim, we have to think of counseling as a function and not a position. We've got to build into the curriculum better ways to inform students of career options and to provide exploration experiences with work role models. We can't rely totally on counselors for the counseling function.

Silberman: By direct field experience in the community (e.g., volunteer work, experience-based career education, cooperative education), students can learn much about their abilities and what they are best suited for. It helps them decide where they want to go and what kind of courses they needed to take to reach their goal.

Alabama: Should the student-teacher relationship be taken into account in the planning and assessment of students prior to their enrolling in courses?

Bishop: Certainly you would want at the assessment point, to learn as much as possible about the youth's situation. But, I think that it is also a continuous matter. The idea is not so much that it's the knowledge that the teacher has of the student that is so critical. That was simply an illustration of the lack of interaction that was occurring

between the student and the teacher. Etzioni was arguing for mentoring relationships between students and teachers. This often happens in vocational programs where a student is with a particular teacher for a large portion of the day, maybe for 2 years. But, it doesn't happen for the students who are not in vocational programs. Etzioni encourages high schools to have a homeroom teacher who also teaches a subject, possibly 2 subjects, to a particular group of students so that students would have a particular teacher for 2 hours a day. A strong personal relationship could develop between that teacher and some of the students in that class.

Florida: What is the family's role in helping youth become more employable?

Hotchkiss: The research I have carried out addresses the issue of the influence of parents on the career development of youth. It shows a very strong impact of parental influence on youth--much stronger than peers, much stronger than school personnel such as guidance counselors and teachers. So research would support the idea that some attempt should be made to bring family into the educational process--more than is being done now.

Washington: Could job search training be provided to all students through career education, giving everyone an equivalent advantage in the labor market?

Hollenbeck: Yes, job search training can be provided through career education. It also can be taught in English classes. Regardless of which class provides it, youth who have these skills do better in the job search.

Rosen: Whoever teaches anyone to look for a job should have had some practical experience and should be knowledgeable about the labor market. It is not so much in which class it's taught, it's what the teacher knows about how the labor market operates and how to transmit that information to students.

Ohio: At what point should we provide career guidance so that youth can make educational and employment decisions more effectively?

Taylor: It's hard to make those decisions at any age. Career guidance would be appropriate at any time when youth are approaching major decisions that affect their careers. It involves a series of decisions that begins with high-school

course selections. The college bound students are making decisions at a much younger age. In some school systems, if you eventually want to go into engineering, you have to start algebra in the eighth grade in order to complete the advanced math classes required for college admissions. The system should always be open and should make youth aware of the long-range consequences of curriculum choices so that they don't close off educational opportunities.

North Carolina: Should career objectives and plans be developed for all students--involving teachers, counselors, and family--that would tie them into a broad-based liberal arts program with attention to practical applications that would facilitate their entry into employment?

Silberman: That's an excellent suggestion. In fact, one of our commission's recommendations is that all youngsters develop an individual employability plan. The family ought to be involved with the teacher and the student in laying out a set of activities and experiences that would help the student achieve that plan.

New Jersey: Why are teachers recommended to provide career guidance and assistance, given that they teach longer periods of the day and do not have up-to-date information on the employment community?

Bishop: Holding the teacher responsible for placing their students would link teachers to the employment community and prevent their drifting away from it. The teacher's recommendation on the student's competence generates confidence that he or she can do the work. We're looking for that kind of connection.

Taylor: Another benefit of teacher involvement is the interaction with employers. The feedback as to what employers are looking for could result in curriculum changes. A way of updating the curriculum could be a direct result of the teacher-employer relationship.

Virginia: Why do youth from small towns who are well trained resist going to nearby cities to get better employment?

Bishop: This placement problem is going to be resolved by economics. As well-trained youngsters find out that they can't find jobs in their community, they will have to make a decision eventually to get into a labor market where there are better job opportunities. The other side is to get more businesses to move into the area. This is a long-term issue and problem.

Silberman: Part of this may be fear of the unknown and no friends. Perhaps some support systems such as those are used with the handicapped would be applicable (i.e., location of housing or church; identification with friends--whether former students work there, and, if so, do they like it and what problems did they encounter). This might provide some clues in your own training program.

Taylor: Teachers should teach awareness of the job market as a part of the curriculum in your school. There might also be partnerships with businesses looking for students and helping them make the transition to the new area.

New York: One of the things that has worked in my area is getting the personnel managers to come to us rather than us going to them . . . we find our best placement over the long run is in those areas where the personnel manager comes for a couple of hours a year to see the students in operation, see what they're doing. The friendships that build from that experience in terms of one-to-one relationships and placement are beneficial. This gives the employer a feeling that they should be employing our youngsters. I would encourage getting the personnel managers, the heavy hitters that do the hiring, to go to the schools and take a look once a year.

Rosen: When teachers do the placement, they build contacts in the local community with local employers who hire students. Teachers become more up-to-date and more reflective of the needs of those employers, and they can provide confidential referral advice to the employer. Those kinds of personal connections develop when they have this responsibility. I think the teachers need to be given time off for this task so that they are not overwhelmed.

Pennsylvania: How can we best reach and serve that large group of students who are neither in the college prep nor the vocational training program?

Bishop: Our recommendation is to get them into vocational training programs. You may remember that Roberta Adams in the beginning of the tape said that, "We don't have a general program. We expect a person to be selecting a particular occupation if they are not going to college." And, we've found that some vocational education for those who don't go to college raises earnings by a substantial amount. Getting that word out will help recruit the people who might be taking general track into the vocational track.

Silberman: One possibility is that every student should have an individual employability plan. He or she person would then

lay out a program that is consistent with his or her career aspirations. We ought to get rid of some of these tracking practices--that people are either general or vocational or college bound. Each person should have a unique program designed for that person's particular aspirations. I think it's practical and it's being tried in some places.

Vocational Education Role

Alabama: Should we resist the trend to reduce time in vocational courses to accommodate the increasing academic requirements, given that vocational education improves employment rates and wages only when students are enrolled for several years?

Silberman: Among the recommendations that we made in The Unfinished Agenda was that we encourage everybody to try to specify how vocational courses can generate the same competencies that the academic courses are supposed to produce. In other words, to claim cross credit. For example, business math might be used as a graduation requirement, and in many states, this is actually being done. Another thing that can be done is to make the school day a little more flexible. In many places that we observed, students were taking vocational courses as an early bird course or as a course taken after school or during the summer. There are ways of allowing students who have a tight schedule to fit in vocational electives as well as the academic requirements. In addition, we recommend that guidance services be more directed to giving students better information about the courses available and the utility of those courses for their future career plans.

Taylor: The various educational reform reports of the day stress the idea that standards and quality apply to vocational education. I think that we ought to keep that in mind. Clearly, we can be more efficient. Some of our research on time on task shows that student attentiveness is not as high as it could be or ought to be. But, I do think that we also have to be honest. If, in fact, we do lose substantial instructional time, then we have to scale back our claims in terms of exactly what it is that we are delivering. We must make the consequences of a vocational course reduction known before some of those decisions are being made, so that the consequences can be taken into account by policymakers and others.

Bishop: In our analysis of the effects of the course work on earnings after high school, we found that vocational courses and academic courses were complementary and that there was an optimal share of vocational courses (or at least optimal

from the standpoint of maximizing earnings shortly after high school). What that implies is that it is more important that a youth have 4 vocational courses and less important that they have the fifth and sixth in that final 3 year period. The number of vocational courses necessary to obtain a very large earnings improvement is in the neighborhood of four courses. There is certainly time in the final 3 years of high school to get in all those courses, and those that the National At Risk has suggested as well, if sacrifices are made somewhere else.

New York: How can vocational education be used as a lever to stimulate economic development in the community?

Bishop: I wouldn't want to limit my answer just to vocational education. All levels of education should be concerned about entrepreneurship.

Canada: In addition to in-school education and training, are counseling, information services, placement, follow-up, and retraining essential to the effectiveness of the education and training system?

Taylor: Yes, a complete system would help youth become aware of and choose among the many alternatives, and it would provide training, try-out experiences, and actual work experiences in the labor market, job placement, and further training for advancement on the job. That system might draw upon the resources of the school, the employers, government agencies, and others who might have a role in that area. Too often we rely on the individual student to provide the integration of services and learnings when we need to give them more help in interpreting these experiences in terms of a coherent plan.

Montana: Are we expecting vocational educators to be more flexible and responsive to the demands of the employment sector than their academic counterparts?

Etzioni: Yes, we have to expect more from the vocational educators because the academicians are locked into their academic disciplines and have lost touch with reality, by and large. We need vocational educators to help students maintain contact with reality.

Silberman: The important thing is that we not expect more or less of one group than another, but that these two groups have to get together under the leadership of the school administrators to work together and communicate with each other about how they can achieve their overall goals.

Ohio: Should vocational education take on more of an exploratory role at the secondary school level?

Silberman: Students can benefit greatly from exploratory experiences, and these experiences can contribute to their career maturity and, in turn, to better career decisions.

Florida: What adjustments would be necessary to change the current system of American education to a dual system such as those in Japan or Germany?

Bishop: I wouldn't describe the Japanese system as a dual system at all. Their educational system is completely basic skills and hardly any vocational training in the schools. All job-specific and occupation-specific training occurs on the job or in 2-year postsecondary institutions. We're a mix somewhere between the Japanese and German system, where education occurs on the job as well as in schools. I'm not sure that we would want to go all the way to the German system. It has a number of good features: (1) the mentor relationship between the master and apprentice, and (2) the long-term relationship between the employer and the youth that yeilds a great amount of information to the employers when making hiring selections.

Taylor: We probably would never make a conscious decision to have a dual system in America, but if our dropout rate increases, with the JTPA as an alternate, the system will back into it.

Iowa: How does the panel view the relationship between the role of secondary and postsecondary schools in terms of the delivery of vocational education, and does the panel see any differences in terms of the scope and depth of the offering?

Taylor: I think the ideal relationship would be uninterrupted and continual progress based on a convergence of interests on the part of the student and the specialization. For example, some of the concepts of 2 + 2 that are being espoused are moving in that direction. If you have employer-validated performance requirements, if you have competency-based instructional programs, and if you can accommodate individualization, then that articulation from secondary to postsecondary with increased specialization ought to be greatly facilitated.

Illinois: Since small business is the backbone of our country, what has vocational education done toward enhancing entrepreneurship as it relates to secondary level or post-secondary level?

Taylor: We have a program for acquiring competence in entrepreneurship that covers both high school and post-high school levels. I might add that Ireland just ordered 100 sets of this curriculum this week. We also have been working with 19 states on the development of task forces to strengthen the ties of vocational education with entrepreneurial activities. Our dissemination and utilization area has identified entrepreneurial materials and has tried to make those available and widely known nationwide. There is a lot of activity and a lot of resources available.

Silberman: We reported some data in the Unfinished Agenda that points out that male secondary students who enroll in vocational education are approximately eight times more likely to be self-employed than males who did not take vocational education.

Colorado: What do current educational and labor market trends suggest for the future of vocational education?

Etzioni: Most futuristic studies should be taken with the biggest grain of salt. The recent prediction that everyone will be involved in high tech is misleading. Our studies show the transition to high tech will be slow. For example, in the state of Massachusetts, only 9 percent of the jobs are high tech jobs. Therefore, the more futuristic the study, the more cautions that should be used in considering it.

Taylor: The term that I heard recently is "broad tech." Broad tech suggests that many of the ongoing occupations will have to assimilate technology. We use laser beams in everything from leveling land to highly delicate operations by medicine. The key is that many of the ongoing occupations are going to upgrade to assimilate the new technology, and people will have to grow and adapt in those areas. But most of the jobs in the future are going to be in the same areas that they are today.

Rosen: We shouldn't lose our perspective about high tech. The Department of Labor has done some projections on employment opportunities. In the next decade, there will probably be more jobs for secretaries than there will be for high-tech workers. In short, the existing jobs are going to offer the greater job opportunities.

Silberman: One of the demographic projections is that we're going to have fewer young people entering the work force relative to the total population. We are going to see a much greater premium placed by industry and business on attracting high school graduates into the labor force. If that happens, I believe there will be a resurgence in high school vocational education.

Illinois: What can administrators at the local level do to encourage or motivate classroom teachers to keep their work experience up-to-date and their curriculum up-to-date so that students will be employable when they leave the classroom?

Taylor: That is a constant concern. I think one of the recommendations on the videotape was to keep teachers involved in placement so that they were in contact with employers, they were getting feedback on the success of their graduates, and they were getting information that would be useful in revising and updating their programs. The National Center has just completed two projects dealing with technological update, and it seems to me that local salary schedules, state certification requirements, as well as just appealing to the professional instincts of teachers, are all things that should be brought to bear. Giving advisory councils a role in looking at the currentness of instructors is obviously another one.

Arizona: How do the results of this research address the requirements of the new Vocational Education Act?

Taylor: There are several parallels, but the new act places more emphasis on adults, program modernization, strengthening the ties with industry, special populations, and at-risk groups. We must think of a total vocational program going beyond the federal legislation. I see the federal legislation narrowing its agenda, and the complete vocational program going beyond this.

CONFERENCE EVALUATION

CONFERENCE EVALUATION

The Fourth Annual Policy Forum was conducted at 65 sites in 50 states; Washington, D.C.; and New Foundland, Canada. Of the 3,000 persons registered to participate in this event, a representative sample of 794 completed evaluation forms. Using a Likert scale, the respondents evaluated the three major components of the conference: the videocassette, the follow-up discussion at the sites, and the national audioconference. The distribution of the respondents is shown in table 1:

TABLE 1
FORUM FOUR EVALUATION RESPONDENTS

Sector:	73%	Education	9%	Business	9%	R & D	9%	Other
Schooling Emphasis:	47%	Secondary	34%	Postsecondary	19%	Other		
Position:	46%	Administrator	16%	Teacher	13%	Guidance		
	8%	University	4%	Policymaker	5%	Advisory Council		
	5%	JTPA/PIC	4%	Private Sector Employer	13%	Other		

This was not the first audioconference for a majority of the respondents. Only 29 percent indicated that they had never attended an audioconference before. Approximately 8 percent had attended 5 or more audioconferences.

Assessment of the Conference

By all quality measures, the conference was a success. Over 80 percent of the respondents indicated that they wanted to participate in future audioconferences. Only three respondents indicated that they would not be interested. The quality dimensions of the evaluation items for all parts of the conference received a high rating by the majority of the respondents. The percentage of respondents giving favorable ratings was as follows: 85.2 percent for the site follow-up discussion, 82.8 percent for the audioconference, and 79.8 percent for the videotape. In order of importance, the aspects of the conference they liked the most were (1) sharing information with other states, (2) interacting with the panel of experts, (3) gaining information and insights, (4) getting updated on the research, and (5) getting recommendations to improve practice. The following details the assessments of the videotaped presentation, the site follow-up discussion, and the nationwide audioconference. Also, provided by the respondents were suggestions for improving future efforts in these areas.

Videotape Presentation

A 56-minute videotape was developed by the National Center's research division expressly explicating the education and employment issues, presenting

the research findings, and detailing the recommendations for students, schools, and employers. This strategy was used in lieu of a two-way videoconference that was deemed prohibitively expensive and nonpracticable for reaching a wide audience. Ninety-two percent of the conferees indicated that the videotape was a good way to communicate research on education and employment. The specific items and the respondent ratings can be found in table 2.

TABLE 2
RATING OF VIDEOTAPE

Items	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
The videotape was a good way to portray research on education and employment.	35.9	55.5	5.4	2.9	0.3
The content of the videotape was stimulating.	23.6	57.9	11.8	5.9	0.8
The research in the videotape was informative.	23.1	55.1	15.3	5.5	1.0
The videotape can help shape the agenda for future research.	29.0	47.3	17.4	5.1	1.2
I would recommend using the videotape to inform others about the research and recommendations.	31.9	38.4	20.8	6.5	2.4

In order to improve the videotape for future conferences, conferees responded to an open-ended question. Forty-three percent of the conferees made suggestions for improving the videotape. Major concerns centered around having a broader treatment of the research, broader representation of youth and businesses, and shorter version of the videotape. These suggestions are doable even though the latter is somewhat incompatible with the others. The implications of such suggestions are increasing the amount of videotaping to expand the "raw footage" from which to select and increase editing time--both of which are costly. An economical alternative is to make the narration more explicit to include more issues that are critical to the presentation but economically infeasible to the videotape. The frequency of suggestions for improving the videotape can be found in table 3.

TABLE 3
SUGGESTIONS FOR IMPROVING THE VIDEOTAPE

Percent	Suggestions
25%	More inclusive research, broader viewpoints on the issues, and better treatment of the problem
18%	Broader representation of students, races, socioeconomic status, and businesses
17%	Shorter and more stimulating version of videotape tape
7%	Better preparation for viewing videotape
3%	No improvement needed
54%	No suggestions

NOTE: Percentages add to greater than 100 percent because of multiple responses.

Site Follow-up Discussions

After the conferees viewed the videotape at each of the 65 sites, the site facilitator engaged them in a discussion to relate the substantive issues of the videotape to local concerns and to generate questions for the audioconference. These discussions were planned to last 60 minutes but varied at the discretion of the site facilitators.

Conferees were very satisfied with the site discussions. Their overall ratings for the site discussions were higher than ratings for other components of the conference. The specific items and the respondent ratings can be found in table 4.

TABLE 4
RATINGS OF SITE FOLLOW-UP DISCUSSION

Items	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
The follow-up discussion corresponded well with the videotape.	25.4	57.4	14.2	2.6	0.4
The site coordinator effectively facilitated group discussion.	41.3	46.7	9.8	1.9	0.3
The discussion generated appropriate questions for the audioconference.	35.8	48.9	13.7	1.4	0.2
The handout material was useful.	30.9	47.2	17.6	4.3	0.0

The conferees' suggestions for improvement of the site discussion were few. Only 22 percent of the respondents made suggestions. For some sites, conferees criticized the lack of preparation (8 percent), quality of the discussions (7 percent), and the lack of time (7 percent). The success of this component is doubtless due to the materials and assistance provided by the National Academy of the National Center and the site facilitators themselves. A number of sites went all out by providing panels of state leaders and related data from the state and by attending to the human aspects and creative comforts of the conferees.

Audioconference

Nine audioconference sessions were held in order to accommodate all sites. Each session lasted approximately 60 minutes. The number of participating sites at each session ranged from 5 to 16. Generally, there were no significant differences in the evaluations across the sessions. This may have been due to the fact that the sessions with few sites had more interaction time, and the sessions with the most sites had a broader representation of states--a situation of trade-off that resulted in a wash. The most favorable comments clustered around the opportunity to confer with persons from around the country who otherwise would be inaccessible. The least favorable clustered around conferee's frustrations resulting from the time limits and limitations posed by the medium, namely, not being able to see the speakers and not being able to ask all their questions and to make comments.

The conferees were most satisfied with the effectiveness of sharing information, the participants' use of audioconferencing, and the technical aspects. They were least satisfied with the opportunity for interaction. The specific items and the respondent ratings can be found in table 5.

TABLE 5
RATINGS OF AUDIOCONFERENCE

Items	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
The technical aspects of the audioconference (clarity and volume) were satisfactory.	34.1	48.0	11.0	6.4	0.5
The speakers were effective in their use of audio-conferencing.	25.3	57.7	13.1	3.5	0.4
The audioconference is an effective strategy for sharing information.	33.5	49.7	11.4	5.0	0.4
There was sufficient opportunity for interaction during the audioconference.	15.4	42.7	22.7	15.6	3.6

Only 30 percent of the conferees responded to the open-ended question on how the audioconference component could be improved for future conferences. Since this component is critical for exchanging information, every attempt should be made to address these concerns. Their suggestions for improvement can be found in table 6.

TABLE 6
SUGGESTIONS FOR IMPROVING THE AUDIOCONFERENCE

Percent	Suggestions
8%	Better questions and answers
7%	Better technical equipment
5%	Fewer sites online
5%	More time online
[illegible]	Greater interaction among participants
4%	Video transmission
3%	No improvement needed
70%	No suggestions

NOTE: Percentages add to greater than 100 percent because of multiple responses.

Despite some of the frustrations expressed, the conferees mentioned the audioconference component as the most liked aspect of the conference. Specifically, they liked sharing information with other states and interacting with the panel of experts.

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